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NAME OF AUTHOR/*NOM DE L'AUTEUR* LORNA BRADEN

TITLE OF THESIS/*TITRE DE LA THÈSE* COMPETITIVE SPORT PARTICIPATION AMONG ADOLESCENT GIRLS : A STUDY OF SELECTED VARIABLES

UNIVERSITY/*UNIVERSITÉ* UNIVERSITY OF ALBERTA

DEGREE FOR WHICH THESIS WAS PRESENTED/*GRADE POUR LEQUEL CETTE THÈSE FUT PRÉSENTÉE* MA

YEAR THIS DEGREE CONFERRED/*ANNÉE D'OBTENTION DE CE DEGRÉ* 1976

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Competitive Sport Participation Among Adolescent Girls: A Study of Selected Variables

by

© Lorna Ruthanne Braden

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE
OF MASTER OF ARTS

DEPARTMENT Physical Education

EDMONTON, ALBERTA

FALL, 1976

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled Competitive Sport Participation Among Adolescent Girls: A Study of Selected Variables submitted by Lorna Ruthanne Braden in partial fulfilment of the requirements for the degree of Master of Arts.

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Date August 16, 1976

ABSTRACT

It was the purpose of this study to investigate the nature of the relationships between the level of an adolescent girl's competitive sport participation and the following variables: a girl's need for achievement, her mother's need for achievement, the socioeconomic status of the family (income), the girl's sibling-sex status (number of male siblings and order of birth in the family), attitude toward competing in sport (the degree of congruence for the girl between her ideas of an 'athletic girl' and 'ideal girl'), and the mother's childrearing practices. In addition, five second order relationships about the daughter's need to achieve and five of the above variables were proposed. Three second order propositions dealt with the need for achievement and two with attitude about 'athletic' and 'ideal' girls.

Spring semester physical education students (girls) at three Edmonton high schools completed a total of 312 questionnaires. The girls' mothers were also asked to complete a similar questionnaire and seventy per cent complied. The total number of responses included in the analysis of data was 219 mother - daughter pairs. The two questionnaires constructed for the girls and their mothers included both closed and open ended questions as well as three scales; the Need for Achievement scale, the Semantic Differential, and the Maternal Childrearing Practices scale.

Analysis of the data revealed little of statistical significance. However, slight trends were indicated by three of the propositions: the higher the need for achievement of the daughter, the greater her participation in competitive sports requiring physical skill; the higher the socioeconomic status of the family, the greater the daughter's

participation in competitive sports requiring physical skill; the greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the greater the daughter's participation in competitive sports requiring physical skill. Similarly, of the second order relationships, two showed slightly significant correlations: the higher the need for achievement of the mother, the higher the need for achievement of the daughter; the greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the mother, the greater the congruence between an 'athletic girl' and an 'ideal girl' for the daughter.

In the light of this survey, it is evident that much work needs to be done in the development of valid and reliable scales particularly for the measurement of the need for achievement and maternal (as well as paternal) childrearing practices. The entire area of the social forces influencing an adolescent girl to participate in competitive sport has many potential research questions which need to be explored.

ACKNOWLEDGMENTS

To Dr. Ann Hall, my advisor, and to my committee members, Dr. Lorraine Wilgosh and Ms. Sue Neill, my most sincere thanks for the invaluable assistance, direction and support given during the development of this thesis.

To Dan Precht, many thanks for the able assistance given in interpreting the SPSS programme for the analysis of this data.

To my parents and friends who have endured and encouraged over the years, thank you.

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CHAPTER I

INTRODUCTION

It would be difficult to dispute the generalization that the behaviour of an individual is determined by the structure and composition of the social organization in which he or she lives and interacts. Compliance with the societal expectations ensures the transmission and survival of the culture. However, to identify or specify the 'how's' and 'why's' of the individual's conformity is difficult. The process of influencing is commonly referred to as socialization and can be regarded as an interactional process whereby a person acquires a social identity, social skill, knowledge and dispositions, learns appropriate behaviour, and in general conforms to the expectations held by the members of the cultural system to which he or she belongs (Loy and Ingham, 1973).

The result or product of the process is an individual who is more or less an able and functioning member of society. Socialization focuses on similarities rather than individualizing patterns and processes, and on those aspects of development and maturation which concern the learning of and adaptation to culture (Elkin, 1960). Further, there appear to be two traditions in the study of this complex process:

> One is the interest in how individuals adjust to society and how in spite of the influence of society upon them they manage to be creative and gradually to transform the social order in which they have been born. The other is the interest in how society socializes the individual--how it transforms the raw material of biological man into a person suitable to perform the activities of society. (Brim and Wheeler, 1966:4)

The latter will be the orientation of this study.

If one were to consider for a moment just one aspect of how an individual becomes socialized, the importance of others as mediators of culture would become readily apparent. Woelfel and Haller (1971:74) suggest that "the influence of other persons and groups in the formation of attitudes, values, self-conceptions and other psychological structures is central to much of sociological theory". Who then are these 'significant others' and what are their characteristics?

> Individuals are continually interacting with a set of potentially significant others whose opinions, cognitions, expectations and evaluations they perceive and evaluate and incorporate into the self according to the opportunities and pressures for doing so. (Kemper, 1966:325)

Significant others are people with relative power and competence, or those loved or liked by the individual, with whom interaction occurs and to whom he or she psychologically relates. Emotional attachments underlie the motivation to learn, and the child seeking approval and love from others, is motivated to think and behave as those others wish (Elkin, 1960; Crandall, Katkovsky and Preston, 1960). "The individual, because of his previously acquired desire to conform to others' expectations, is motivated to live up to these standards, and his sense of well-being or satisfaction depends on such conformity" (Brim and Wheeler, 1966:15).

There are many agencies of socialization. Four subsystems of society which are crucial are the family, peer groups, the school, and the community; and these obviously differ in relative importance for every individual. "Social structural factors determine the expectations of an individual's significant others, which in turn exert causal influence over the person's attitudes" (Woelfel and Haller, 1971:85).

In spite of the present concern over the disintegration of the nuclear family in North American society, one must surely concede that the family is generally the first and most important socializing agent or 'significant other' in the life of the child and adolescent. It is the family structure which determines the nature of the child's earliest interpersonal experiences. The sanctions and values of the sociocultural order are translated and interpreted by the parents who deliberately train their children to conform to certain expectations of social behaviour in order that they will emerge as successful participants in the social order (LeVine, 1969).

To what sorts of expectations and standards must an individual conform? In Western society, the importance of education and schooling is impressed upon the child from the time a child enters nursery school to the time university is completed. During those many years, the child learns how to cooperate with others and how to compete with others in order to succeed. One of the most prominent socially approved ways of competing is in sport. Young people engage in sporting activities with considerable intensity during the school years, and if the habit is well established, they may participate through life. As Kenyon (1969) suggests, sports and games are played for many reasons: as a social experience, for health and fitness, in the pursuit of vertigo, as an ascetic experience, as a competitive experience, as an aesthetic activity, and for catharsis. One might speculate as to why the sporting tradition has been so faithfully translated in our culture for generations. Some sport sociologists would argue that sport and games both express and teach the values of a society. Roberts and Sutton-Smith (1969:133) propose a 'conflict-enculturation' theory; that is, through the conflict of sport and games, the individual will learn the essences which have allowed the culture to survive.

> Each game is a microcosmic structure in which the polarities of winning and losing are variously presented. The individual in conflict is attracted to a model because he can find in it a codification of the emotional and cognitive aspects of his conflict, which is unavailable to him, and at his level of maturity, in full scale cultural participation....Each type of game in unique fashion contributes information as to the real values and nature of different types of chance, skill and strategy in assuaging conflict in learning how to handle social competition.

The argument is that because sport and games provide a buffered experience for learning and reduce the intensity of conflict with which the child must cope, he is better able to adapt to the emphasis that society places on the individual to achieve and to be a success.

"All societies are concerned with more or less abstract standards of excellence expected from their members in various fields of endeavour" (Lipinski, 1965:1). The success syndrome, to achieve, to do well, to win, is one of the cornerstones of a capitalistic society and is expressed in a wide range of competitive activities, and is usually measured in the most tangible and quantifiable form possible. Academic success depends on marks, business success on wealth and position, social success on the quantity and quality of material possessions, and success in sport on winning or losing. McClelland (1961:322) suggests the association between achievement motivation and interest in competitive athletics both as a spectator and a participant is not entirely unreasonable:

> By definition, people with a high level of achievement show much inner concern with doing something well, with striving to achieve or surpass some standard of excellence. Shouldn't they, then, be interested in competitive games where they will have a chance to achieve (or watch others achieve) standards of excellence.

Participation in sporting pursuits not only encourages the inculcation of this win-oriented ethos, but assists the individual in adapting to it.

Games and sports requiring physical skill, strategy or chance, and various combinations of these are evident in almost every society in the world. Traditionally these pursuits were practised by men. But one of the most noticeable changes in recent years has been the increase in participation of women and girls in all types of games and sport activities. This phenomenon is in keeping with the trend toward the equalization of opportunities for women, and with the dispelling of negative attitudes associated with physiological and psychological stress and harm allegedly caused to women who participate. Even so,

> ...from puberty onwards, playing games and sports is predominantly a masculine phenomenon in this culture. Boys proceed from pastimes into games, but girls by comparison do not. Games and sports are positively associated with the male sex role, but negatively associated with the female. (Sutton-Smith, Rosenberg and Morgan, 1963:124)

This same study showed a marked change in play preference at age eight and nine, with boys showing an increased interest in physical sports. The authors propose that the boy's specialization is in response to clear cut role prescription, while the girl's greater diversity in play activities but not sports indicated a lack of clear sex role definition and consequent confusion in sex-role identity.

Because of the prepubescent tendency of girls not to engage in activities of physical skill, the adolescent girl is prone to passivity and then fulfills the cultural stereotype of the passive female and the active male (Zoble, 1973). "Cultural pressure is widespread for identifying and reinforcing women's appropriate sex-role as dependent, passive and conforming, while at the same time emphasizing the inhibition of these qualities in men and boys" (Kane, 1972:21). Western culture permits dependent behaviours in girls, but boys are encouraged to become autonomous and independent (Tyler, 1973; Parsons and Bales, 1956). When viewed in relationship to feminine achievement in other non-domestic areas, non-achievement in sport becomes part of the whole stereotypic spectrum of female incompetence. Zoble (1973) suggests that the repression of the competitive, aggressive achievement orientation in girls begins at puberty when secondary sex characteristics evidence physical differences between males and females and there is an accompanying social differentiation. Because of these physical differences, Zoble (1973) further suggests that the female has a constitutional tendency toward passivity and non-competitiveness which is culturally reinforced.

Sherif (1972) rejects this reasoning to a certain degree. Motivation theory postulates that the effort expended in an activity and the aspiration level depend on the motive being aroused, the probability of success that the person forsees, and how important the activity is to the person. Sherif reasons that:

> Neglect of the last variable has been crucial to the so-called puzzle. The puzzle was not that females revealed a lack in the achievement motive, for their responses in college samples were typically as high or higher than males. I say that these responses had very little to do with the female's actual behaviour or competitiveness in concrete situations. Much of the puzzle has turned out to hinge on the failure to specify the importance of the activity to the female. We have very few firm conclusions to suggest that females are less competitive than males, but we have a great deal of evidence that competition depends upon the importance of the activities in question to the person, upon whose words and standards count to the person in assessment of performance, and upon the level of the standards as these relate to actual performance capability or potential.

One reason that there appears to be a lowered level of aspiration and performance and hence degree of personal involvement in conspicuous achievement areas, whether it be intellectual, mechanical, political, or athletic, is the lack of reference groups, especially female role models, who have been successful in these areas (Sherif, 1972; Zoble, 1973; French and Lesser, 1964).

Hall (1974:3) has written an excellent comment on the direction and nature of the "remarkable resurgence of popular, academic and political interest in the whole question of women's role and status in society".

> Academic interest in particular has become focused on the study of sex differences in so far as they illuminate, support, and even counter the arguments for social change. However, the

> resurgence of interest in women and the concomitant academic research manifested specifically in studies relating to sex role learning and behaviour, feminine psychology and personality, and the more general implications of the changing role of women, has only just begun to generate serious research into female sport involvement. Thus we are beginning to see, particularly on the North American continent, the first signs of a systematic attempt to study female athleticism in the context of a value climate that is inconsistent and somewhat ambivalent toward sport for women. Research papers are being published in abundance, conferences on women and sport are being called at regular intervals, courses on the topic are beginning to appear on university campuses, and legislation designed to rid society of discrimination based on sex is forcing the reevaluation of women's sport programmes.

High school physical education curricula and inter-school sport programmes for girls are two areas among many (YWCA keep fit classes, organized amateur competitive sport, instructional classes in traditional male sports such as soccer to cite a few) that have undergone tremendous metamorphoses in Canada in the last ten years. It is the purpose of this study to investigate the relationships between five selected variables and the adolescent girl's competitive sport participation.

CHAPTER II

REVIEW OF THE LITERATURE AND DERIVATION OF THE PROPOSITIONS

Girls today appear to be participating actively in more sports, with greater intensity, and at all levels of competition. Many influences allow or encourage girls in this direction. Certainly intra-family relationships, pressures and restrictions are important directives for young girls.

There are several studies which indicate that adolescents viewed their parents as most influential in shaping their values and attitudes, and although their stated beliefs and values did in fact correlate with those of their parents, their behaviours were sometimes inconsistent (Rosen, 1955; Kandel and Lesser, 1969; Abu-Laban, 1967). Balazs (1974:6) conducted twenty-four case studies of world class American female athletes and reported that "it was apparent that the majority of subjects regarded their parents as the main motivating force in their development". Sutton-Smith and Kozelka (1963) suggested that an investigation of achievement motivation in parents was neglected in research on achievement training. However, Sherif (1972) felt that an exclusive focus on parents or the nuclear family as a source of social learning was misdirected because the importance of the family constellation during adolescence needed to be understood within the context of the youth's relationships with peer groups and related institutions. She believed that female groupings were so important in affecting standards of the young girl that these should perhaps be the focus of study. Greendoefer (1975) (whose subjects were athletes) concurred that peers and school were the significant social systems during adolescence; the family and peers were the important agents of socialization during childhood.

Nevertheless, there is sufficient evidence in the literature to indicate that the majority of researchers turn to the family to look for the reasons influencing the offspings' behaviour. Several family-oriented variables have been chosen for investigation in this study: socioeconomic status, sibling-sex status, maternal childrearing practices, congruency between mother's and daughter's attitudes toward an 'ideal girl' and an 'athletic girl', and both the mother's and daughter's motivation to achieve. Each will be related in the form of a proposition to the outcome or dependent variable, the daughter's competitve sport participation. In addition, some second order relationships have been derived related to the need for achievement.

Competitive Sport Participation

It cannot be denied that there has been an upswing in the number of women and girls participating not only in the traditional female sports such as figure skating, gymnastics, synchronized swimming, but also in more traditionally male-oriented sports such as ice hockey and soccer. Tradition is a very important force in considering the reasons why individuals behave the way they do.

Athletic competition is a fairly universal achievement training experience for males in North American culture (Willis and Bethe, 1970). When child training practices are examined cross-culturally, games of strategy appeared to be related to obedience training and to cultural complexity, games of chance associated with high responsibility, and games of physical skill (whether considered as pure physical skill or as physical skill and strategy jointly) are related to an emphasis on reward for achievement and frequency of success (Sutton-Smith and Kozelka, 1963). Barry, Bacon and Child's (1957) cross-cultural survey indicates that boys are given higher achievement training, while girls are given more consistent obedience and responsibility training. They postulated (1963:15) that "girls who have higher obedience and responsibility training than boys would play more games of strategy and games of chance while boys who have higher achievement training than girls would play more games of physical skill".

Sherif (1972:122), however, believes "that this extrapolation from cultural analysis to the social-psychological level of choice is apt to be an oversimplification. After all, tradition is a very strong force toward choice of male or female activities, and opportunity is another". Obviously, without the opportunity for female participation in 'male' activities, especially sporting pursuits, the tradition will not change. Similarly, unless tradition becomes less of a determining factor, the opportunity will not exist. The differences in socialization correspond to general adult male and female roles the world over. Even in experimentation with boys and girls in laboratory games, the sex-role differences are often subjectively noted by the researcher. Boys who won were strategists, independent, and high need achievers, "girls who were winners were aggressive, hyperactive and masculine. Girls who played for a draw were feminine and socially withdrawing" (Sutton-Smith and Roberts, 1970:125).

> For the adolescent boy, competence in the traditional team sports is one of the defining characteristics of masculine behaviour. Athletic competence is one of the trio of traits--courage, independence, and athletic prowess--that defines the culture's version of the ideal American male. (Kagan and Moss, 1962:135)

There appears to be a trend for parents to translate their own competitive and success attitudes for their offspring in a manner consistent with cultural stereotypes of sex roles. Generally, children observe and tend to internalize the types of activities carried out by the same-sex parent. Parsons and Bales (1956:100) summarize this point of view: "The boy is under heavy pressure to achieve a degree and rate of emancipation from his dependency on his mother....The girl, on the other hand, retains her sex-role identification with the mother."

However, Hauge (1973) suggests that psychologists are questioning the traditional view (such as that stated by Parsons and Bales twenty years ago) that girls simply identify with their mothers and boys with their fathers. It would indeed be logical to assume that children do identify with both parents rather than one, and both parents teach role appropriate behaviour. A girl who enjoys a warm unambivalent relationship with her father may in fact develop a well founded achievement motive through success in competition; but when the achievement becomes a threat to their daughter's social life and eventual marriage, both parents push the traditional feminine role. The adolescent girl is competitive but in the social sphere rather than in the academic, vocational or sport worlds. In North American culture, where the father plays a more encouraging role, setting high standards for the son and encouraging achievement, loss of the father means the removal of a positive masculine model for achievement (Bradburn, 1963; McClelland, 1961).

Both parents undoubtedly share in influencing the development of their daughter's need for achievement and success as well as her inclination to adopt the appropriate sex-role behaviour. Miller (1973) suggests that a particular combination of relationships with both parents was an important element in success motivation in girls. "Among the girls whose mothers were loving and demanding and whose fathers were rejecting and casual, many had high achievement orientation" (Miller, 1973:5). However, it is the mother's traditional responsibility for nurturance and training in early childhood when the beginnings of many of the child's needs and expectations emerge. The degree of the mother's own emancipation or adherence to tradition will inevitably influence to some extent the trend of her daughter's own values and beliefs.

Success in sport is a vicarious display of achievement. Achievement and recognition-seeking behaviours are socially valued responses for both boys and girls (Lipinski, 1965), but Heilbrun's investigation (1963) supported the hypothesis that the greater the adoption of the feminine sex-role in adolescent girls, the greater the confusion in interpersonal behaviours relevant to achievement motivation. Competition in sport is related to both achievement and aggressive motives because it involves striving for excellence in order to defeat a peer.

However, one must distinguish between different types of competition: competing against a standard; competing with self against previous performance; and competing against others. Kagan and Moss (1962) suggest that mastery in all three types of competition is a prerequisite for satisfactory vocational adjustment. Achievement and success in mechanical and physical skills were emphasized for boys, whereas artistic and intellectual pursuits were encouraged for girls.

Some researchers such as Petrie (1971) in his study of college students, suggest that females provide greater support for values unrelated to achievement or competition. Although this may appear superficially to be true, girls are nevertheless competitive; the confusion may exist over which type of competition is appropriate. It is at this point that a host of societal and parental pressures have a direct influence on the behaviour of a girl. Female achievement in sport is controversial, and it is likely that it is acceptable to middle-class parents until adolescence when their concern for more role appropriate behaviour may overshadow the importance of achieving (Bardwick, 1970).

The Need for Achievement

1. Achievement Motivation Theory

To achieve and succeed are socially approved behaviours in North American society. Achievement value orientations are meaningful and affectively charged modes of organizing behaviour and established criteria which influence the individual's preferences and goals (Rosen, 1956). Presumably, the need for achievement (commonly abbreviated to 'n Ach'), like other need systems, is a product of social learning situations and reinforcements, in other words, a personality disposition which is learned through social interaction (Crandall, Preston and Rabson, 1960; Atkinson, 1965).

Many researchers have written definitions of the need for achievement (n Ach). Rosen (1956:204) perhaps exhibits the greatest clarity:

> The behaviour of people highly motivated for achievement is persistent striving activity aimed at attaining a high goal in some area involving competition with a standard of excellence. In relation to these standards of excellence, the achievement oriented person directs his efforts towards obtaining the pleasure of success and avoiding the pain of failure.

A standard of excellence is peculiar to the situation and may vary in height (the degree of excellence required to be successful), form and source (external or internal), and omnipresence and stability in the culture (Crandall, Katkovsky and Preston, 1960).

In 1953, McClelland proposed that n Ach, rather than being a unitary need, was in fact more complex. A distinction could be made between two types of achievement motivation, one characterized by a hope of success and the other characterized by a fear of failure.

Worded differently, one is an approach motive involving anticipation of reward--the motive to succeed (M_s); the other is an avoidance motive involving anticipation of punishment--the motive to avoid failure (M_{af}) (anxiety in the sense that the person is more concerned with avoiding failure than with achieving success). The assumption is made that all individuals have acquired both motives but in varying degrees of strength. Both motives are normally aroused whenever performance is likely to be evaluated against some standard of excellence.

> It is assumed that the two opposed tendencies combine additively and yield a resultant achievement-oriented tendency which is either approach or avoidant in character and of certain strength depending upon the relative strength of the motive to achieve success and the motive to avoid failure in the individual (Atkinson, 1965:34).

The amount of interest an individual expresses in some task or performance is a multiplicative function of three variables: the motive (to achieve success or to avoid failure); the strength of the expectancy that performance will be followed by success or failure; and the relative attractiveness or incentive value of the expected consequences. The two motives are personality dispositions which are separate and distinct. The tendency to avoid failure is inhibitory in character. Few feel badly at failure in a very difficult task, but failing at a very easy task is a great source of embarrassment and anxiety.

Individuals with different motive orientations tend to react to situations fairly consistently (Ryan and Lakie, 1962; Smith, 1964). Under neutral conditions, persons in whom the motive to avoid failure is stronger, perform relatively better; however, in competitive, threatening or stressful situations, anxiety is expected to have a debilitating effect on performance. Competitive situations seem to be conducive to relatively better performance in individuals who have a stronger need to achieve success.

A motive is a function of the individual, whereas expectancy and incentive are functions of the situation. Expectancy refers to the probability that a particular performance will be a success or a failure and the probability odds exist only when an expectancy of satisfying a motive through a specified behaviour has in fact been aroused. Atkinson (1966) and Litwin (1966) suggest that the degree of difficulty can be inferred from the expectancy of subjective probability of success. The task an individual finds difficult is one for which he perceives his probability of succeeding as very low; conversely, an easy task is one in which the individual believes he has a high probability of succeeding. Given some objective basis for inferring the strength of expectancy, one might logically deduce that the stronger the achievement motive relative to the motive to achieve success, the higher the subjective probability of success. Similarly, a relatively stronger motive to avoid failure would produce a higher expectancy of failure.

A condition of apparent or real ambiguity is a prerequisite in eliciting and determining the direction and strength of motivational expectancy. Subjective probability of success can be thought to extend along a continuum from very easy, to a fifty percent chance of success, to very difficult. Atkinson's model has been further developed to show that maximum motivation, either to succeed or to avoid failure, is aroused by tasks which have a probability of success of .50. The hypothesis that achievement-oriented subjects select tasks of intermediate difficulty or risk, that is, a subjective probability or expectancy of success closest to .50 has been repeatedly confirmed in experimental research (Moulton, 1965; Litwin, 1966; Raynor and Smith, 1966: Atkinson, 1965; Levy, 1973: Roberts, 1975). However, individuals for whom the probability of success is as far from .50 as possible (Moulton, 1965). Failure to complete an easy task is unlikely, thus confirming their desire to avoid failure; and failure at a difficult activity is quite excusable and does not usually carry the social stigma that may accompany failure to achieve a task of intermediate difficulty.

Laboratory research by Atkinson et al (1960) on males performing games of physical skill and games of chance showed that the males high in M_s preferred intermediate risk, while males high in M_{af} chose extreme probability alternatives in the same games. Raynor and Smith (1966) suggest that sports and games requiring physical skill provide inherent conditions conducive to success; however, the odds for success in games of chance are usually either low or difficult to compute.

M_s and M_{af} are not static behavioural dispositions. When an individual has completed a task, his expectancy of success at that task and similar ones will generally tend to be raised after success and lowered after failure. Moulton (1965) while concurring with this observation, found that in anxious subjects (high M_{af}), atypical trends occurred; that is, aspiration decreased following success and increased following failure.

> When accustomed to success, a child is able to tolerate occasional failure without breaking up over it. But persistent experiences of failure to meet expected standards means that almost every drop in performance is soul shattering. Over time, the aspiration level for performance is set lower and lower until pretensions may vanish altogether. This finding would seem to be particularly relevant for female competition in sports, especially if the female follows the trend from late childhood of stabilized or decreased performance levels while standards get higher because she is older. (Sherif, 1972:126)

The incentive value or attractiveness of success or failure is personal because each individual perceives the value or the reward differently. Except in very rare cases, there are always a number of extrinsic factors influencing someone to undertake an activity (Atkinson and O'Connor, 1966). An individual who displays a weak achievement motive in an experimental test situation may in fact be high in n Ach if an extrinsic reward such as remuneration, status, trophy, approval, for which he does have a strong motive were offered as an inducement for improved performance. This is particularly true in sport where there is rarely a direct relationship between a need-motive and its expression in behaviour (Moss and Kagan, 1961). Situational variables such as affiliation, power, dominance, social and peer pressure are constantly clouding a motive to win (Willis and Bethe, 1970).

2. Sex Differences

The majority of research on the motivation to achieve has been conducted with male subjects in an academic environment. Women are conspicuously absent in most studies and when they are included, Horner (1968) asserts that the data on the predictive power of n Ach for the behaviour of women in competitive situations is both confusing and inconsistent. There may exist to date, however, one trend: girls tend to have higher scores on anxiety than boys (Lipinski, 1965; Horner, 1968). Saranoff as reported in Lipinski (1965:32) suggests two possible factors contributing to this phenomenon:

> In Western culture, girls are allowed freer expression of all forms of emotion than boys and therefore may admit to more anxiety. Anxiety questionnaire items are biased in that they require a positive admission of anxiety, and are therefore more likely to be answered truthfully by girls. Of course, there is a distinct possibility that girls actually experience more anxiety than boys.

Many reasons have been postulated to explain the sex-related incongruencies in the data.

Girls' achievement strivings in competitive game experiments appear more related to approval from significant adults than from an autonomous or intrinsic desire for success. Achievement goals most important to women may prove to be related to the female role of marriage and motherhood, rather than to the more masculine role of competition and exploitation (Sartoris, 1962; Uesugi and Vinacke, 1963). Endorsement of individuality is associated with high achievement in women because it suggests concern with being different by being conspicuous which is necessary if the individual wishes to be noticed socially; endorsement of deferred gratification is associated with success in men (Turner, 1964). Lesser, Kravitz and Packard (1963) suggest that the lack of expected increase in n Ach scores for females may be that they were more concerned with achieving in the sense of social acceptability than with achieving a standard of excellence.

> Crandall and his associates speculated that realistic aspirations are implanted in boys because social importance is attached to the actual results of their efforts. Girls, on the other hand, may be rewarded for a 'good try' or they may be criticized for stating high aspirations, even when they are realistic, on the grounds that boasting is not feminine. Whatever the reasons, it would appear that normal associations between achievement motivation and performance, including realistic adjustment to feedback from past performance have suffered serious dislocation among bright girls. (Lipinski, 1965:36)

3. Fear of Success

Several researchers felt that the theory of achievement motivation as developed to date by Atkinson and McClelland did not adequately apply to women and in part accounted for the confused results on traditional achievement motivation tests. Schuster (1955) was the first to propose that a motive to avoid success existed and Matina Horner (1968) was the first to submit the theory to experimental investigation. Horner (1968:abstract) defined the motive to avoid success or the fear of success (FOS) as:

> ...a psychological barrier to achievement in women. When it is aroused, fear of success adversely affects performance. This fear exists because for most women, the anticipation of success in competitive achievement activity, especially against men, produces anticipation of certain negative consequences, that is, threat of social rejection and loss of feminimity.

The motive to avoid success is a positive motive:

> At the point at which success is farthest from attainment, the individual high in the fear of success is able to respond to his desire to achieve success. The fear of success becomes activated when the individual perceives that the initially desired success is within reach. Hence, the manifestation of the FOS is dependent on an increase in the proximity of success....In fact, until there is evidence of the impending attainment of success, this individual might have strong subjective strivings toward success. (Pappo, 1972:4)

Horner (1968) made a series of assumptions about the fear of success which her research generally substantiated: it is a stable characteristic of personality acquired in conjunction with early sex-role learning; it is a disposition to feel uncomfortable when successful in competition (particularly against males) and to expect subsequent social rejection; it is more common in women than men; it does not hold equal importance for all women; it is a multiplicative function of motive strength, expectancy and reward. Pappo (1972) described an FOS individual as preoccupied with self-sabotaging, defense maneuvers in the event that he is about to succeed. He becomes concerned with evaluative and competitive aspects of the situation, expresses self-doubt and repudiation of competence, and tends to attribute causality to extraneous factors such as chance, mood, errors in scoring and experimental conditions.

Much of the pioneer work on developing the concept of the motive FOS must be attributed to Horner, and it has generated much interest, comment and scientific research. However, some of her work has not been substantiated in replication studies. Zanna (1973), Sorrentino and Short (1973) and Morgan and Mausner (1973) were only able to produce results which in fact suggested no significant difference between levels of FOS in males and females.

Several alternative interpretations have been offered to explain the discrepancies in results. Pappo (1972) attributes the confusion to the fact that men and women respond to certain aspects of success in stereotypic fashion. Tresemer (1973) writes that high FOS women become inhibited in competition, particularly with men, simply because women perform more adequately when they work alone against their own standards of excellence, an opportunity that appeals to a high achiever. Lockheed-Katz (1974:12) proposes that responses from the women in her study showed "that a successful woman must overcome tremendous odds; they did not, however, report that a successful woman must avoid success". Feather and Simon (1973) suggest that considerable social change involving a redefinition of sex-roles has occurred in the period since Horner's original study.

4. The Propositions

A parsimonious theory of achievement motivation is gradually being evolved as a result of extensive research. Women are now figuring much more prominently in study populations, and competitive sport as well as academics are being used in laboratory achievement oriented situations.

For this study, two relationships are proposed:

The higher the need for achievement of the daughter, the greater her participation in competitive sports requiring physical skill.

The higher the need for achievement of the mother, the greater her daughter's participation in competitive sports requiring physical skill.

Second order proposition:

The higher the need for achievement of the mother, the higher the need for achievement of the daughter.

The Family: Socioeconomic Status

The class, occupational status and education of the father is likely to determine that of the family. It has been suggested that the nature of the father's occupation may be critical in determining parental orientations toward socialization.

> Middle and upper class parents apparently are the most likely to engage in these socialization practices in the emergence of need achievement; and it is from these classes that high need achievement among adolescent males has been consistently reported. (Turner, 1970:148)

Roberts and Sutton-Smith (1969) also suggested that persons with semi-skilled occupations (which emphasize responsibility) exhibit a greater preference for games of chance when compared with people in the professions (emphasizing achievement), who show preference for games of physical skill and strategy. In that study, not only was achievement motivation related to occupational status but also to the types of games preferred by those occupational groups. A study by Murphy (1969) of the participation of married women in physical recreation activities revealed that the upper and middle socio-economic status groups have a higher percentage of participation in physical activity than did women of the lower groups. There also appeared to be a marked decrease in high involvement from the upper stratum to the lower stratum while highest participation in skill-requiring physical activities occurred primarily in the upper stratum.

Parental level of education does not show a consistent or highly significant relationship to achievement fantasy in the child (Kagan and Moss, 1959). However, a positive trend in the relation between achievement themes and educational level of the same-sex parent tentatively suggests that the achievement concern of the same-sex parent may have some influence on the child's need achievement strivings. This suggests that a highly educated parent would be more concerned that his child achieve than would a less educated parent. For the specific motive fear of success, Weston and Mednick (1972) found a general absence of social class differences. For the whole concept of achievement motivation, there appears to be a slight trend for the middle and upper class parents to reinforce achievement, standards of excellence, and success behaviour in their children (Turner, 1970).

While there is slight evidence to support the idea that socioeconomic status is related to preference in physical sport activities and hence to greater achievement motivation, Sutton-Smith and Kozelka (1963:22) found that:

> The professional occupational group failed to show a high percentage of response to interest in physical game activities. The other high status groups (the salary executives) and a low status group (the factory wage earners) both showed significantly higher percentages of interest. One interpretation of this result is that the occupational status index is not as adequate an index of need achievement as are the economic and educational indices in which no such reversal of expectation occurred.

Luschen (1969) preferred to use education, income and class as indices of socioeconomic status as opposed to an occupational index. Luschen acknowledges that sport, rather than the prerogative of an upper leisure class (synonymous with Sutton-Smith's "professional occupational group"), is distributed, albeit unevenly, over all classes. Similar to Sutton-Smith and Kozelka, Luschen found that sport was preferentially an activity of the middle class and of skilled labourers oriented toward the middle class. He referred to these groups as "the already achievement motivated 'middle class'" (Luschen, 1969:264).

A proposition may be developed from the literature to relate family socioeconomic status and competitive sport participation:

> The higher the socioeconomic status of the family, the greater the daughter's participation in competitive sports requiring physical skill.
>
> Second order relationship:
>
> The higher the socioeconomic status of her family, the greater the need for achievement of the daughter.

The Family: Sibling-Sex Status

In the nuclear family, not only the parents but also the siblings of the child influence his achievement strivings. The development of independence, fairly well established as a characteristic of high achievers, may be affected by family size.

> In a large family, there is relatively greater need for interdependence, cooperation, and consensus than in the small family; as a result, most large families must place more emphasis on responsibility, conformity, and obedience than on individual achievement and self expression. (Gilmore, 1974:178)

Gilmore (1974:168) suggested that the first-born, because of his unique experience of being the only child for a period of time, receives more "undiluted parental love, concern, and guidance as well as subtle pressure and achievement training than do subsequent siblings". Sampson (1967) also found a significant tendency for first born children to have a higher motivation to achieve than those later born. Although not statistically significant, the trend of the relationship was similar for both males and females, with a slight indication that the association is stronger for women than for men.

Some studies examining the effect of ordinal position in the family and sibling composition suggest that opposite sex siblings acquire some of the personality characteristics and behavioural patterns of their siblings. Landers (1970:248), however, associating these ideas with sport participation found "no significant effects of ordinal position on sibling-sex status, nor did these factors interact with the sport categories in the sport participation measure".

However, there are indications in the literature that the contention that females with brothers tend to display more masculine patterns of behaviour than females with sisters can be partially supported. Hauge (1973:21) reported that the "most masculine-conceived sport (track and field) has an overrepresentation of females with older brothers". Hauge also found that females with younger brothers participated in significantly more masculine sports and had a lower femininity rating than females with younger sisters. First born children tend to conform more to their traditional sex roles than do siblings. Therefore, one might assume that a second born female would have the benefit of being less tradition bound. "It is the second born siblings who most faithfully seem to reproduce in their own behaviour the responses which have been modelled for them by their older sibling" (Portz, 1972:229). Following this reasoning, one might speculate that the female who has an older brother for behavioural patterning (who typically achieves in athletic competition) might be overrepresented in sports requiring physical skill. Balazs (1974) prepared twenty-four case studies of top American female athletes who participated in the 1972 Olympics in gymnastics, competitive swimming, track and field or skiing. Contrary to Hauge, Balazs reported that over one half of the subjects were either first born children or first born daughters. In addition, the majority of the athletes came from four-sibling or larger families.

Although a review of some research indicates some conflicting evidence, sibling-sex status may influence the level and type of sport participation for girls. One might propose that:

The greater the number of brothers she has, the greater the daughter's participation in competitive sports requiring physical skill.

The later the daughter is in the order of birth in her family, the greater her participation in competitive sports requiring physical skill.

Second order propositions:

The greater the number of brothers she has, the higher the need for achievement of the daughter.

The later the daughter is in the order of birth in her family, the higher her need for achievement.

Maternal Childrearing Practices

There is a profusion of research about the effects of childrearing practices on the development of achievement motivation. However, there is a tendency in the literature to focus on 'parents', rather than distinguishing between the practices of either the mother or the father; secondly, the subjects often tend to be 'children', without differentiating boys from girls; thirdly, if there is a sex distinction made, the subjects are invariably male; fourthly, the measure of n Ach used by researchers is almost exclusively academic achievement. "McClelland, in his studies of achievement motivation as it was related to socialization, looked at sons in relation to a family structure and at women only in so far as they played the nurturant mother's role" (Maxwell and Maxwell, 1975:106). There has not been a great deal of research on the mother's influence, other than nurturant, on her children in developing attitudes and personality characteristics and preferences. However, some comments can be made.

Achievement motivation and independence are two important corollates for the development of a predisposition to participate in competitive sport. Achievement motivation probably has its origins and development in various kinds of emotional and unverbalized parent-child interactions that occur early in the child's life as well as in the widely varied peer and community related experiences that take place during adolescence. The fact that an individual does receive achievement training presupposes the structuring of the situation within an achievement related, person-environment frame of reference, and it is improbable that there is this sort of continuity before the age of three because motives develop along with cognitive maturing (Heckhausen, 1967). McClelland (1958) argues that the motive is formed roughly between the ages of five and nine; Greenberg (1932) and Sherif (1972) further elaborate: competitiveness is fairly consistently exhibited in over ninety percent of the six and seven year olds.

In North American culture which is founded on capitalistic ideology, the need for achievement is still one of the major cultural values. Studies have been conducted which are concerned with all three aspects of achievement motivation--the motive to succeed (M_s), the motive to avoid failure (M_{af}), and the fear of success (FOS).

Parent-child interaction is a critical consideration in determining the development of all three motives. Pappo (1972:5) assumed FOS to be "the negative reaction on the part of one or both parents to the child's movements toward attainment of an appearance of competence". When the areas of competence development prohibited or repressed by parental anxiety are important ones such as strivings toward growth and mastery, the child's innate impetus to participate in these areas persists in spite of the parental prohibition, but the child will develop defense mechanisms which allow participation in the activity and simultaneously reduce the anxiety aroused by involvement in parentally disproved behaviours.

Winterbottom's (1958) study with eight year old boys and their mothers, and Teevan and McGhee's study (1972) with junior high school boys, revealed that when the motive to avoid failure (M_{af}) is stronger within the mother, the punishment will generally be more intense across all activities; the child will be encouraged not to take risks but to repeat what he already knows he can perform, and the mother's own behaviour will be essentially avoidant and anxious. Kagan and Moss (1962) and Rosen and D'Andrade (1959) found maternal hostility, exhibited in a critical or rejecting attitude toward the child's attempts in competitive sport and physical skill acquisition resulted in the development of a motive to avoid failure. In research on test anxiety and the relationship between parents and children, there were significant positive correlations between girls and their mothers. The greater the test anxiety in parents, the more the children were motivated to avoid failure. "There is a consistent relation for girls and their mothers, some support for boys and their mothers, slight support for boys and their fathers, and no support for girls and their fathers". (Adams and Sarason, 1963:240).

The majority of the research is focused on intra-family relationships and the development of the motive to succeed. The development of independence and mastery is one variable which researchers have identified as significantly related to achievement motivation. Testing on grade school boys showed that the later the mastery training, the higher the n Ach scores tended to be (McClelland, 1961; Heckhausen, 1967). Conversely, Berens (1972) whose research was concerned with girls in part, produced results which indicated that low n Ach in girls was related to late demands for independence. Berens (1972:7) further elaborates:

> The picture of the mother of a high n Ach daughter which can be developed...is one of a mother still actively involved with her daughter but not actually taking over. She has made demands on her daughter for independent behaviour fairly early but is no longer pushing this. In fact at age ten, she is giving her daughter the independence to be independent. However, both mother and daughter report that the mother is still making demands for achievement behaviour and is still willing to offer help and support. It seems that independence is necessary for girls to develop achievement motivation because without it they would be unable to interpret success or failure as the result of their own behaviour, and this would deprive them of the opportunity of competing with a standard of excellence, the basic definition of an achievement situation.

It cannot be stated conclusively at what point in training an emphasis on independence would produce the highest motive to succeed. A study of preschoolers at the Fels Research Institute (Crandall, Preston and Robson, 1960) failed to produce any demonstrable association between independence training and children's achievement behaviour. This is not surprising, however, because McClelland (1961) suggests that the achievement motive does not appear in behaviour until the ages of five to nine.

Encouragement of restrictions has also been indentified as a variable significantly related to high achievement (Berens, 1972). Parents of children who are highly motivated to succeed tend on the average to impose greater numbers of restrictions up to the age of seven, but then fewer up to the age of ten. Simultaneously, however, there are a greater total number of demands rather than restrictions placed on the child (Rosen, 1956; Atkinson, 1965; Winterbottom, 1957; Heckhausen, 1967).

A third variable significantly related to high n Ach is high encouragement of achievement. Parents of highly motivated children tended to encourage this by offering rewards, warmth and approval for successful performances (Atkinson, 1965; Crandall, Preston and Robson, 1960; Berkowitz, 1964; Berens, 1972; Winterbottom, 1958; Rosen, 1959). Heckhausen (1967) specifically found parents of bright, high achievers to engage in more sharing activities, show more approval, trust and affection, and to encourage achievement without exerting pressure. There is some research which appears to contradict this. Behaviour of adolescent and college males in the classroom, which was observed to be conforming and conventional, was attributed to family atmospheres which were reserved, less affectionate and nurturant (Drews and Teahan, 1957; Crandall et al, 1964; Strodbeck, 1958; McClelland, Clark and Lowell, 1953). The majority of the research, however, is supportive of the concept that high motivation to achieve is related to positive parental encouragement in that direction.

The personal attitudes that the parents hold concerning the importance they attach to their own success and achievement is often reflected in their children. The observations of Rosen and D'Andrade (1959) and Heckhausen (1967) indicate that the parents of boys with a high motivation to achieve themselves tended to be more competitive, show more involvement, and take more pleasure in problem solving experiments. Because of the strength of their own need to achieve, they had higher aspirations for their sons to perform with better than average competence. They often set up standards of excellence for the boy even when none were inherent in the situation. Both Winterbottom (1956) and Smith (1969) suggest that when a mother has a high motive to achieve, she encourages the child to be realistic and to approach tasks that the child has a medium probability of mastering. The mother's vicarious motivation for the child should be generally positive toward competitive activities and activities requiring physical skill. Mothers tend to be less personally involved in participation in competitive sport, and are less likely to insist on their values for their children. The importance mothers do place on the development of physical skill and competition in sport is reflected more in the activities of their sons than their daughters.

Similar maternal treatments may yield different behaviours in the two sexes. Because of the complexity of parent-child interactions and childrearing practices, one must caution against overgeneralizing about apparent similarities between parents' attitudes and those they aspire for their children. At the same time, the significant correlations obtained in some studies do indicate "that parents' attitudes and evaluations of their children's achievement are often closely associated with their ideas and feelings about their own achievement efforts and competence" (Katkovsky, Preston and Crandall, 1964b:79).

Some relationships between the similarity of mothers' attitudes to those of their daughters (as reflected in the congruence of ideas about 'athletic' and 'ideal' girls), maternal childrearing practices and the daughter's competitive sport participation may be proposed:

> The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the greater the daughter's participation in competitive sports requiring physical skill.
>
> The more the childrearing practices of the mother reflect her orientation toward achievement training, the greater her daughter's participation in competitive sports requiring physical skill.
>
> Second order propositions:
>
> The more the childrearing practices of the mother reflect her orientation toward achievement training, the higher the need for achievement of the daughter.
>
> The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the daughter.

The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the mother.

The greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the mother, the greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the daughter.

Summary of the Propositions and Second Order Relationships

1. Propositions

a. The higher the need for achievement of the daughter, the greater her participation in competitive sports requiring physical skill.

b. The higher the need for achievement of the mother, the greater her daughter's participation in competitive sports requiring physical skill.

c. The higher the socioeconomic status of the family, the greater the daughter's participation in competitive sports requiring physical skill.

d. The greater the number of brothers she has, the greater the daughter's participation in competitive sports requiring physical skill.

e. The later the daughter is in the order of birth in her family, the greater her participation in competitive sports requiring physical skill.

f. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the greater the daughter's participation in competitive sports requiring physical skill.

g. The more the childrearing practices of the mother reflect her orientation toward achievement training, the greater her daughter's participation in competitive sports requiring physical skill.

2. Second Order Relationships

a. The higher the socioeconomic status of her family, the greater the need for achievement of the daughter.

b. The greater the number of brothers she has, the higher the need for achievement of the daughter.

c. The later she is in the order of birth in her family, the higher the need for achievement of the daughter.

d. The higher the need for achievement of the mother, the higher the need for achievement of the daughter.

e. The more the childrearing practices of the mother reflect her orientation toward achievement training, the higher the need for achievement of the daughter.

f. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the daughter.

g. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the mother.

h. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the mother, the greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the daughter.

Aims of the Study

It is the purpose of this study to investigate the nature of the relationships between the level of adolescent girls' competitive sport participation and the following variables: a girl's need for achievement, her mother's need for achievement, the socioeconomic status of the family, the girl's sibling-sex status, the degree of congruence for the girl between her ideas of an 'athletic girl' and an 'ideal girl', and the mother's childrearing practices. In addition, the significance of several second order relationships concerning these variables and achievement motivation will also be studied.

Definition of Terms

The following four definitions are offered as clarification for the reader; however, an attempt has been made to use terminology commonly understood by most individuals.

1. Competitive sport. An activity which is marked by the identification of a winner, loser, or rank ordering or participants corresponding to their relative degrees of excellence in performance.

2. Physical skill. Specific movement by an individual which requires the acquisition of special motor skills that are not essential for the performance of the activities of daily living.

3. Participation. Active involvement or overt personal action by an individual in a competitive sport requiring physical skill.

4. Team. A number of individuals who compete in a sport either individually, as a pair, or in a group; for example, a gymnastics team is a group of 'individual' competitors and water polo is a 'team' sport because a group of players compete together toward a common goal.

CHAPTER III

METHODS AND PROCEDURES

The methods and procedures employed in this investigation included the construction of two very similar questionnaires (one for mothers, and one for their daughters), the selection of the subjects, and the field survey itself.

Measurement of the Dependent or Outcome Variable

1. Competitive Sport Participation

Four questions were designed to provide an index of competitive sport participation. An attempt was made to explore three dimensions of participation: quantity, intensity, and level. The respondents were asked to report: the number of sports in which they had competed and the number of years they had devoted to each sport (quantity); the average total number of hours spent per week in practice and competition in one sport they had been actively involved in during the past twelve months (intensity); the level of participation - regional, national and international.

A total numerical participation score was derived for each respondent by summing the number of years participation, the number of hours per week spent in practice and competition, and a score of one for each of regional, national and international level of competition. The lowest participation index would be zero, indicating no experience in competitive sport, and the scores would increase on a continuum from that point onwards.

Measurement of the Independent or Influencing Variables

1. Achievement Motivation

Motivation is really an intervening variable and its presence can only be inferred from behaviour (French, 1958). Shaw (1961) suggests that there are difficulties in quantifying need, implying that it is constant for all areas of an individual's life space, and in assuming that the felt need and behaviour are congruent. This is perhaps typical of the athlete whose observed behaviour in intense competition is often at variance with behaviour in other situations and with measured achievement motivation outside the sporting context (Kane, 1972). Because n Ach tends to be situational in character, attempts are made to identify circumstantial influences as well as to establish the independent measure of n Ach.

To measure n Ach, there has been the development of both projective measures such as the Thematic Apperception Test (TAT) (McClelland et al, 1953), and objective measures which tend to be paper and pencil tests: Personality Scale of Manifest Anxiety (Taylor, 1953); the Test of Insight (French, 1958); Edwards Personal Preference Scale; California Psychological Inventory; Alpert-Haber Achievement Anxiety Test (1960); Need for Achievement Scale (Adams and Sarason, 1963); Achievement Motivation Questionnaire (Hermans, 1970); Resultant Achievement Motivation Test (Mehrabian, 1968).

Criticism has been levelled at both types of measures. The TAT is a fantasy measure of n Ach and is based on the assumption that individuals with high need will tend to interpret the behaviour of others in terms of their own needs. Types of fantasy as portrayed in imaginative stories elicited by cues present in a series of stimulating pictures are rates and quantified. But the comparative unreliability and poor predictive validity of this measure has been noted many times (Sherif, 1972; Bendig, 1959; Entwistle, 1972). The questionnaire technique or objective measurement of n Ach was selected because of its simplicity, clarity, and ease of collection for the sample used in this study.

The measure of n Ach used in this study is taken directly from Argyle and Robinson (1962). Robinson originally developed the instrument in 1961. There were three basic subscales: one set of questions was intended to investigate the need for success; and the second, the need to avoid failure. The whole additive scale of fifteen items was designed to reflect a more complete n Ach. Robinson referred to his third scale as QACH (meaningfully identical with McClelland's n Ach, but the "Q" was adopted to reflect the questionnaire nature of the measurement of the achievement motive as opposed to the fantasy TAT measure). A breakdown of Robinson, scale and subscales, need for achievement (QACH), need to succeed (QACHNS), and avoidance of failure (QACHAF) is given in Appendix A.

There were two reasons for selecting this scale. First, Argyle and Robinson's (1962) original scale was constructed for use with British grammar school children, aged thirteen to seventeen, which was the same age group used for this study. Secondly, the scale has been used on Canadian women by Hall (1974) in an earlier study on women and physical recreation.

For the purposes of scoring, the five choices for answers were given values of one to five, from left to right. Certain items were reversed (see Appendix A) so that a respondent whose pattern of answers suggested that she has not read the questions, could be identified by the investigator and excluded from the study. The maximum score would be 75 indicating a very strong achievement motive; the lowest score would be 15 indicating a weak need for achievement for that individual. The scores of all respondents will fall on a continuum between the two extreme scores.

2. Childrearing Practices

It is proposed that if parents hold certain values to be important, their childrearing practices will reflect these biases. For this reason, a scale was designed to provide information concerning childrearing values. However, in asking for information about childrearing practices, mothers' responses may be modified somewhat by inaccuracy in memory recall or modification of child training methods with successive children. Items on the questionnaire were selected to be as short, concise and contemporary for teenage girls as possible in order to minimize recall problems and to reduce confusion for the respondents.

The items on the scale developed for this study are modifications from Berens (1973) and Smith (1969) and the format used is from Hall (1974). Berens (1973) used four subscales: caretaking, restrictions, independence, and achievement, after carefully studying scales developed by Winterbottom (1958), McClelland (1961) and Feld (1967). Berens found the correlations among the four scales for girls (based on the strength of encouragement of different behaviours) to be positive; however, the correlation was insignificant for caretaking demands. For this reason caretaking demands were not included in the childrearing practices scale constructed for this study.

Berens expressed surprise at the positive weighting of encouragement of restrictions and suggested that her data did not indicate why stronger encouragement of restrictions and high n Ach should be associated. Berens (1973:115) does speculate, however, that "it may well be that high n Ach with its attendant risk-taking, striving for success, and independence leads the mother to exert greater pressure for the female role-congruent behaviour the restrictions this subscale represents".

Both independence and achievement behaviours have been repeatedly identified in the literature as related to the development of n Ach. Berens (1973) suggested that there were two basic errors in the child-rearing practices scale she developed for her study. The first was that the items were complex, involving more than one attribute at a time; for example, the content of the items on the independence and achievement subscales were intermixed. Secondly, the three types of achievement, competition with a criterion or standard, competition with one's own previous performance, and competition against others (Heckhausen, 1967) were mixed even within the same item. Berens (1973:150) reported that the mothers responding to the questionnaire in her study "indicated that they agreed with achievement oriented toward task competition, or improvement of one's own performance, but did not approve of interpersonal competition". Effort was made in this study to avoid mixing independence and achievement behaviours, and to distinguish between the three types of achievement.

Fifteen items on the three subscales of restrictions, independence, and achievement were eventually selected for inclusion in the child-rearing practices scale; the items were ordered to avoid concentration on one subscale and some items were reversed. (Appendix B indicates which items belong to each of the three subscales and which items were reversed for scoring.) The mothers were asked to respond to each item by writing in a numerical value: 5 = very important; 4 = quite important; 3 = moderately important; 2 = not too important; 1 = very unimportant. The respondents' total scores were numerical values placed on a possible continuum of 15 to 75.

It is suggested that a positive attitude toward achievement training for her children (as measured by the childrearing practices scale) should be reflected in part in the mother's past and present participation in at least physical activity if not competitive sport. For this reason, two additional questions were inserted, one to determine the mother's past participation in competitive sport, and a second to determine the mother's present level of participation in any type of physical sport or recreation. An affirmative response to the first question scored 2, and a negative response, 1. For the second score, the mother was asked to rate her present participation level: none, low, medium, high, with a corresponding score of 0 to 3.

The respondent's combined score for both the mother's childrearing practices scale and her own participation index was a numerical value on a continuum with a range of 15 to 80. The higher the score, the more the childrearing practices of the mother reflect encouragement of achievement and participation in sport.

3. Congruency Between 'Athletic Girl' and 'Ideal Girl'

Attitudes are difficult to measure or quantify because there is no simple causal relationship between attitude and behaviour. Attitude is one of many factors including social norms, anticipated consequences of behaviour, situational variables, and specific individual behavioural dispositions which may predict behaviour (Hall, 1974). Hall (1974:60) reviewed the literature on the semantic differential and found it "to be a reliable and valid measure of the affective meaning people ascribe to stimulus words and concepts".

'Athletic girl' and 'ideal girl' were the concepts to which the subjects in this study were asked to respond. Because these two semantic differentials were previously used in research on Canadian women, it was felt that similar methodology should be used in this study. Hall (1974) used the concepts 'feminine woman' and 'athletic woman' on a sample of Canadian and British women. However, for the purposes of this study, it was felt that 'girl' rather than 'woman' would be more appropriate because of the age of the subjects. In addition, 'feminine' was changed to 'ideal', but the item was retained by adding the adjective pair 'feminine-masculine' to the scale.

A semantic differential consists of a series of scales composed of bipolar adjectives with a seven point range between them. For example:

good ____ : ____ : ____ : ____ : ____ : ____ : ____ bad
1 2 3 4 5 6 7

The subject reacts to the appropriate concept by marking a point along the scale. By marking the middle of the scale, neutrality is indicated; by marking closer to the poles, the respondent feels that the concept has a progressively stronger relation to that polar adjective.

There are three dimensions of meaning: evaluative, potency, and activity. Traditionally, the evaluative dimension is believed to be a measure of attitude. For this reason, all seven pairs of adjectives on the evaluative dimension of Hall's scale were included in this study (good - bad, valuable - worthless, kind - cruel, sweet - sour, tasteful - distasteful, happy - sad, clean - dirty). The adjective pair feminine - masculine was added as an extra item. The scale used in this study then, is composed of only eight bi-polar adjectives in order to maintain the interest and attentiveness of the respondents.

For the purposes of scoring, the favourable pole of the scale was assigned a score of 7, and the unfavourable pole, a score of 1. It is obvious which items are reversed. The total rating for attitude toward an 'athletic girl' and an 'ideal girl' was the sum of scores on each item. The range of possible scores must fall between 8 (highly unfavourable) and 56 (highly favourable).

However, the purpose of this study is to make quantitative statements about the differences in meaning between one subject's reaction to 'athletic girl' and 'ideal girl', rather than to discuss the nature of the actual response to either concept. Osgood et al (1971:92) developed a generalized distance formula "D" which they state "is most often used to index the distance between (and hence similarity among) concepts as judged by an individual or a group". Osgood's specific mathematical equation for computing the D-score was not used in the analysis of data in this survey, but rather a facility of the SPSS programme which produced identical results. When interpreting results, it is presumed that a D-score of 0 indicates perfect congruence between two concepts, and as the D-score increases, the possible congruence between concepts decreases.

4. Socioeconomic Status

Three parameters of socioeconomic status were explored: the mother's occupation, the father's occupation, and the approximate combined family income. The mother's and father's occupation was determined by an open-ended question and then was categorized according to the occupational groupings used by the Canadian Department of the Secretary of State in A Leisure Study - Canada 1972: unemployed and others, managerial, professional, white-collar, blue-collar and craftsmen, resource and industry workers, housewives, and students. Respondents were asked to indicate their annual combined family income by marking one of the following income groupings: less than $5,000.00; $5,000.00 to $9,000.00; $9,000.00 to $13,000.00; $13,000.00 to $18,000.00; $18,000.00 to $24,000.00; over $24,000.00. It was hoped that those reluctant to reveal this information would feel less imposition in stating income groupings than exact income.

The six income groupings were used as indicators of socioeconomic status.

5. Sibling-Sex Status

The respondents were asked to give the number and ages of all siblings. From this, a profile of the sibling relationships of the family could be described: the number of older brothers, older sisters, younger brothers, and younger sisters.

From the same information, the order of birth of the daughter in the family could also be determined. If the number of older sisters and brothers is added, then that numerical value plus one is the birth order of the daughter. The number of brothers and sisters plus one gives the total number of children in the family.

The Selection of the Sample

The subjects were adolescent girls and their mothers. The girls attended public senior high schools (grades ten, eleven and twelve) in the city of Edmonton, Alberta.

A map of the 1975-76 senior high school boundaries obtained from the Edmonton Public School Board and the Edmonton Census Tract Bulletin of the Canadian census of 1971 were used to determine rough estimates of the approximate location in the city of families with various education, occupations, and incomes and the schools which served these families. Three schools were preselected with the expectation that all socioeconomic levels would be reflected in the sample.

Composition of the Questionnaires

Both the questionnaires for the daughters (Appendix C) and their mothers (Appendix D) were prefaced by an introductory section assuring the respondents of confidentiality and thanking them for their help. In addition, the mother's package included a covering letter of explanation from the study supervisor (Appendix E). Each questionnaire was precoded according to the school to associate mother with daughter. To facilitate this, the daughter's questionnaires were duplicated on white paper with a green introductory sheet, and the mother's on yellow paper.

Part One of the daughters' questionnaire included the questions on age and sibling-sex status. Part Two was concerned with determining the daughters' competitive sport participation indices. The girls were asked to report the name of the sport and the club in which they had been an active competitor to deter non-participants from just reporting a number of years of competition for any number of social or personal reasons. Part Three was the need for achievement scale and Part Four was the semantic differential for the concepts 'athletic girl' and 'ideal girl'.

Part One of the mothers' questionnaire was the childrearing practices scale. Part Two was the need for achievement scale and Part Three was the semantic differential; these two sections are identical in content to Parts Three and Four of the daughters' questionnaire. Part Four was the personal information concerning occupation, income, and present and past participation in sport and physical recreation.

The two questionnaires required approximately twenty minutes to complete. Both were pretested, then revised and reworded on the suggestion of the respondents in an attempt to make the instructions clear and precise. All questions were designed so that the data could be recorded on IBM punch cards to be used on an SPSS computer programme. Appendix F identifies the meaning of the variable code names chosen for the SPSS programme.

The Field Survey

After the approval of the Edmonton Public School Board was secured, the precoded questionnaires were distributed in each of the three schools in physical education classes during the month of April, 1976. Approximately 100 were handed out in each school to at least one grade 11 and 12 class in each school, the remainder of the total for each school coming from grades 10 and 11 depending on the breakdown of classes for the spring semester. There was only one grade 12 class in each school. The investigator collected all questionnaires from the students and the second precoded questionnaire was given to each girl to be taken home, completed by the mother and returned to the school the following morning. Verbal instructions were given to emphasize the necessity of returning the mothers' questionnaires. The investigator returned to the school in seven days and collected the mothers' questionnaires that were returned to the physical education instructor.

CHAPTER IV

ANALYSIS OF THE DATA

The facilities of the programme SPSS - Statistical Package for the Social Sciences (a series of preconstructed computer programmes designed for the analysis of social science data) - were used for the data analysis in this survey. The descriptive information derived is presented immediately, followed by a discussion of the construct validity and internal consistency reliability of the scales and an evaluation of the propositions developed from the literature.

Descriptive Information

One hundred per cent of the 312 questionnaires distributed to the girls in their physical education classes were returned because the investigator remained in the class and collected them as they were completed. Two hundred and nineteen of the mothers' questionnaires were returned, a very acceptable 70.2 per cent rate of return. If the mothers' questionnaires were not returned, their daughters' were not included in the survey.

The range of ages for the girls was 15 to 18 with a mean age of 15.9 years. The largest age grouping (almost one-half) was 15 years, and one-third of the girls were 16 years old. Three-quarters of the girls were either 15 or 16, the remainder were 17 or 18 years. Over three-quarters of the girls reported that both their parents lived at home with them; the rest (14.2 per cent) lived with only one parent - the mother. It is very interesting to note that of those girls who lived with only their mothers, almost 75 per cent reported either none or very low competitive sport participation.

The sibling status breakdown for the families who completed the survey is quite interesting. As can be seen in Table I, only 10 of the 219 girls were only children and the families ranged in size from one child to 11 children. The average family, however, had 3.9 or approximately 4 children; 72.1 per cent of the families in this sample had 4 children or less. The birth order of the daughters is shown in Table II. Over one-half of the girls were either first or second born children. Slightly more than one-quarter of the girls in this study did not have any brothers; the remainder had anywhere from one to eight brothers. The mean number of brothers was 1.4. Two-thirds of the girls had either one, two or three brothers, and only 15 of the 219 girls had four brothers or more.

The competitive sport participation index designed for the girls had three component parts - a measure of the quantity of sports, or the number of years different sports had been pursued; a measure of intensity or the number of hours per week spent in practice and competition for one particular sport; and a measure of level, whether or not a girl had ever represented Edmonton, Alberta or Canada in a particular sport. Considering the quantity of sport participation, 63 of the 219 girls or 29 per cent had never been involved in any competitive sport. However, the remaining girls had a very broad range of intensity indicating that for one sport, they devoted anywhere from two to 46 hours per week in practice and competition; the average number of hours was approximately eight. Only 18.3 per cent of the girls reported that at one time they had been a member of a team in a competition representing Edmonton, 10.0 per cent had also represented the Province of Alberta, and 1.8 per cent (4 of the 219 girls) had represented Canada.

Table I

Family Size: Total Number of Children in the Family

(N = 219)

Number of Children	Absolute Frequency (Number from the Total Sample Size)	Relative Frequency (Per Cent)	Cumulative Frequency (Per Cent)
1	10	4.6	4.6
2	41	18.7	23.3
3	56	25.6	48.9
4	51	23.3	72.1
5	22	10.0	82.2
6	23	10.5	92.7
7	6	2.7	95.4
8	5	2.3	97.7
10	4	1.8	99.5
11	1	0.5	100.0
	219	100.0	

Table II

Birth Order of the Daughter

(N = 219)

Order of Birth in the Family	Absolute Frequency (Number from the Total Sample Size)	Relative Frequency (Per Cent)	Cumulative Frequency (Per Cent)
1st	67	30.6	30.6
2nd	55	25.1	55.7
3rd	43	19.6	75.3
4th	25	11.4	86.8
5th	17	7.8	94.5
6th	8	3.7	98.2
7th	3	1.4	99.5
10th	1	0.5	100.0
	219	100.0	

Almost two-thirds of the mothers reported that they had participated in competitive sport at one time. However, almost one-third of the mothers indicated that they were not now involved in any type of physical recreation or sport at all and almost one-half rated their present physical recreation level as low. Less than one-quarter of the mothers reported their present activity level as medium or high.

The descriptive information about the survey population which can be noted from the socioeconomic status data is interesting. Table III shows the occupational status of the mothers, and Table IV, the occupation of the fathers. Almost one-half of the mothers indicated that they were not employed outside the home. The "white collar" workers were employed for the most part in secretarial and clerical work. The "blue collar" workers usually reported employment with cleaning and janitorial firms; the craftsmen worked as bakers, seamstresses and the like. The professionals were either teachers or nurses. The occupations of the husbands, as reported by the mothers, were quite diverse. Medical doctors, lawyers and engineers were classified as professionals. Blue collar workers and craftsmen worked in jobs such as plumber, auto mechanic, taxi driver. Office workers and salesmen were included in the white collar group, and supervisors or self-employed individuals were considered managerial. Just over 10 per cent of the mothers reported their husbands to be unemployed, separated, divorced or deceased. (In fact, only one husband was reported to be unemployed.) One mother reported that her husband was employed full time in managing household affairs, hence the classification "housewife".

There are some interesting trends which can be noted from the frequency data on income as shown in Table V. It would appear that

Table III

Mothers' Occupation

(N = 219)

Category	Absolute Frequency (Number from the Total Sample Size)	Relative Frequency (Per Cent)	Cumulative Frequency (Per Cent)
Housewife	95	43.4	43.4
Student	3	1.4	44.7
Blue Collar & Craftsmen	29	13.2	58.0
White Collar	71	32.4	90.4
Managerial	3	1.4	91.8
Professional	18	8.2	100.0
	219	100.0	

Table IV

Fathers' Occupation

(N = 219)

Category	Absolute Frequency (Number from the Total Sample Size)	Relative Frequency (Per Cent)	Cumulative Frequency (Per Cent)
Unemployed, Divorced, Separated, Deceased	32	14.6	14.6
Housewife	1	0.5	15.1
Student	1	0.5	15.5
Blue Collar and Craftsmen	85	38.8	54.3
Resource and Industry	12	5.5	59.8
White Collar	32	14.6	74.4
Managerial	34	15.5	90.0
Professional	22	10.0	100.0
	219	100.0	

Table V

Yearly Combined Family Income

(N = 219)

Income Group	Absolute Frequency (Number from the Total Sample Size)	Relative Frequency (Per Cent)	Cumulative Frequency (Per Cent)
Less than $5,000.00	3	1.4	1.4
$5,000.00 to $9,000.00	19	8.7	10.0
$9,000.00 to $13,000.00	48	21.9	32.0
$13,000.00 to $18,000.00	51	23.3	55.3
$18,000.00 to $24,000.00	52	23.7	79.0
Over $24,000.00	46	21.0	100.0
	219	100.0	

there is an atypical distribution of respondents in the upper four income brackets, but one must remember that over 50 per cent of the mothers were also employed and contributed to the combined family income. Whether this large percentage of working mothers is typical of a normal urban population cannot really be confirmed or disputed with any degree of certainty. Secondly, the unequal distribution could be indicative of a biased sample. Thirdly, it could indicate that in the city of Edmonton, the standard of living is very high, unlike an expected national distribution. Probably, the explanation lies in a combination of many uncontrollable factors as well as those suggested here. Eleven mothers, 5 per cent of the sample, refused to indicate an income group; the incomes for these families were estimated from the occupations of the husband and wife as reported by the mother.

Evaluation of the Scales: Need for Achievement, Semantic Differential, and Maternal Childrearing Practices

1. Need for Achievement Scale

a. Validity

Before proceeding with an evaluation of the construct validity of the QACH scale as determined through the data from this survey, a review of Robinson's (1961) original concept of his measure of the need for achievement indicates that he "posited the existence of three factors, one he called an avoidance factor, and the other two were associated with the positive aspects of achievement motivation, namely, intensity and extensity" (Hall, 1974:82). Hall (1974) reports that factor analysis of Robinson's data did not conclusively show high construct validity.

> Although the factorial evidence was not highly supportive, the three clusters showed a moderate inter-correlation (.42);

however, whether or not the avoidance cluster represented an amalgamation opposite in content to the success cluster was uncertain, and there was some indication that the avoidance items represented a bi-polar cluster (Hall, 1974:82).

Robinson's original subject sample was small (80), but the scale was designed for British grammar school students. There were 219 mother-daughter pairs in this study and the daughters ranged in age from 15 to 18 years which is, in fact, the age range for which the scale was intended. The mothers in this study, on the other hand, are quite similar both in age and sex to the subjects in Hall's study.

The factor analysis subprogramme of SPSS was used on the data from both groups of subjects in this study, mothers and daughters. Orthogonal varimax rotation with a mineigen value set at one was used in each case.

Considering first the sample of daughters, Table VI shows the varimax rotated factor matrix. The number of items corresponds to the question on the daughters' questionnaire (Appendix C). The items on the achievement scale (QACH) load on six factors instead of the predicted three. Factor 1 accounts for only 20.8 per cent of the total variance, Factor 2 for 10.5 per cent, Factors 3, 4, 5, and 6 for 7.9, 7.8, 7.3, and 6.7 per cent of the variance respectively. Because each factor accounts for such a small portion of the total variance (30.0 per cent is the suggested criterion), one must seriously doubt "the possibility that a singular as well as a multidimensional interpretation is justified" (Hall, 1974:82). Only 61.0 per cent of the total variance is accounted for by the six extracted factors.

The items which load highest on each of the factors are underlined (Table VI). For an item breakdown on the scale, see Appendix A. Factor 2 quite clearly is the extensity aspect of the success motive and Factor 4 can be recognized as the intensity aspect. However, Factor 4 only has

Table VI

Varimax Rotated Factor Matrix for the Achievement Motivation Scale
Subsample: Girls

(N = 219)

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
13	0.073	0.608	0.009	-0.029	0.072	0.014
14	-0.207	-0.141	0.450	0.044	0.075	-0.029
15	0.242	0.377	-0.004	0.144	-0.127	-0.058
16	0.461	0.160	-0.012	-0.039	0.100	0.034
17	0.483	0.332	0.082	0.166	0.056	0.039
18	-0.560	-0.074	0.299	0.004	-0.134	-0.042
19	0.027	-0.007	-0.051	-0.001	-0.068	0.374
20	-0.793	-0.015	0.188	-0.146	0.092	0.108
21	0.072	0.182	0.428	0.100	-0.130	-0.070
22	0.219	0.352	-0.272	0.098	0.277	0.210
23	0.043	0.017	-0.033	0.031	0.529	-0.102
24	0.520	0.121	0.148	0.053	-0.035	0.124
25	-0.437	-0.072	0.365	-0.014	-0.083	0.009
26	-0.016	0.086	-0.025	0.738	-0.036	0.042
27	0.121	-0.013	0.224	0.376	0.118	-0.025

two items which load on it; the third item which is part of the intensity domain loads on Factor 1. Factors 5 and 6 each have only one item loading on them, and they are in fact identical to two of the factors extracted by Hall (1974) which were assumed to be residual and unimportant.

The loadings on Factor 1 are such that no clear interpretation can be ascertained. Of the six items in the factor, two which load positively are from the success motive, and three which load negatively are from the avoidance aspect of achievement motivation. The two items in Factor 3 are also from the avoidance of failure aspect but load positively on the factor.

Thus, on the basis of this factorial interpretation, it cannot be stated with confidence that Robinson's three predicted factors, avoidance of failure (QACHAF), and the intensity and extensity of the need to succeed (QACHNS), do in fact exist. Further, there does not appear to be any justification for taking a generalized achievement motivation score (QACH).

The second set of subjects in this survey who responded to the need for achievement scale were the mothers. Table VII shows the varimax rotated factor matrix. The item numbers correspond to the questions on the questionnaire for mothers (Appendix D). Five factors were extracted instead of the anticipated three. However, the loadings are such with this subsample that the factors appear less confused than with the group of high school girls. The five factors predict 53.8 per cent of the total variance; Factor 1 accounts for 17.3 per cent, Factor 2 for 11.3 per cent, and Factors 3, 4, and 5 for 9.3, 8.4 and 7.6 per cent respectively. Since none of the factors account for 30.0 per cent of the variance which is the suggested criterion, again one must question whether a singular or multidimensional interpretation of the scale is

Table VII

Varimax Rotated Factor Matrix for the Achievement Motivation Scale
Subsample: Mothers

(N = 219)

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
16	0.016	0.371	0.181	0.148	-0.020
17	0.286	-0.083	-0.115	0.211	-0.076
18	-0.108	0.478	0.016	0.147	0.061
19	-0.081	0.152	0.141	0.584	-0.036
20	-0.147	0.633	0.001	-0.082	0.101
21	0.556	0.027	-0.105	-0.165	0.118
22	0.005	-0.034	0.087	-0.068	0.480
23	0.614	-0.127	-0.017	0.065	-0.014
24	-0.014	0.023	0.058	0.250	0.178
25	-0.188	0.482	-0.097	-0.013	-0.025
26	-0.054	0.153	0.087	0.135	0.500
27	-0.312	0.192	-0.057	0.207	0.132
28	0.545	-0.288	0.026	0.089	-0.092
29	-0.478	-0.093	0.488	0.108	0.249
30	-0.045	0.120	0.804	0.055	0.068

justified.

As indicated by the underlined items on Table VII, five items load on Factor 1. Of these five, the four items which load positively clearly belong to the negative or avoidance aspect, QACHAF, of the scale. The four items which load positively on Factor 4 can all be identified as part of the need for success domain of the total scale; specifically, three of the four items delineate the extensity aspect of QACHNS. Factor 3 has two of the three items from the intensity aspect of the positive part of the scale. Factor 4 is confused because one item belongs to QACHNS and the other to QACHAF. The two items on Factor 5 are identical to the single item in each of Hall's Factors 4 and 5 which she deemed to be residual and extraneous.

On the basis of this factor analysis, the existence of both an avoidance factor, QACHAF, and a need for success factor, QACHNS, can be confirmed. However, one must still question whether a total generalized achievement scale, QACH, is justified.

In general, the factor analysis of the data from the sample of high school girls (which is a subject group similar to the British grammar school students for which Robinson originally designed the scale) is much less definitive than the factor analysis data from the subsample of mothers. However, Hall (1974) whose subjects were also women, drew conclusions similar to those made here relative to the mothers' group. It would appear that the construct validity of the scale QACH as well as its component parts QACHAF and QACHNS remains in doubt, although less for the latter two subscales.

b. Reliability

The SPSS subprogramme RELIABILITY was used to compute Cronbach's *alpha* as an estimate of the internal consistency reliability.

The reliability for the QACH scale for the sample of girls was .28 which is indeed low, and for the mothers' group, .35 which is also low.

However, when the reliability of the component parts of the QACH scale is investigated, the coefficients increase. The reliability for the group of mothers on the avoidance of failure aspect of the scale (QACHAF) is .47 which is modest, and for the need to succeed aspect (QACHNS), .33 which is still low. Hall (1974) reported slightly different scores; for the QACHAF scale, a reliability coefficient of .38 was calculated, and for the QACHNS measure, .56 which is moderate.

For the sample of high school girls, a modest .60 was the calculated reliability coefficient for the QACHAF scale and the score for the QACHNS measure was modest also at .46.

2. Semantic Differential

a. Validity

The factor analysis subprogramme of SPSS was used to estimate the construct validity for the semantic differentials 'ideal girl' and 'athletic girl' for both sample groups, mothers and daughters. Orthogonal varimax rotation with a mineigen value of one was used in all cases.

Considering first the concept 'ideal girl', analysis of the data from the girls' responses to the semantic differential indicates the existence of two factors. As shown in Table VIII, it can be easily seen that the only item on Factor 2 is the polar adjective pair feminine - masculine. Factor 1 includes all the adjective pairs from the evaluative dimension of the semantic differential which presumes to measure attitude. (The activity and potency dimensions of the semantic differential were not included in this scale.) Factor 1 appears to be quite factorially pure. Factor 1 accounts for 43.1 per cent of

Table VIII

Varimax Rotated Factor Matrix for the
Semantic Differential 'Ideal Girl'
Subsample: Girls (N = 219)
Mothers (N = 219)

Item	Girls Factor 1	 Factor 2	Mothers Factor 1
Good - Bad	0.470	0.456	0.588
Kind - Cruel	0.665	0.203	0.472
Valuable - Worthless	0.478	0.259	0.658
Tasteful - Distasteful	0.598	0.292	0.706
Feminine - Masculine	0.054	0.772	0.572
Sweet - Sour	0.785	0.014	0.605
Happy - Sad	0.618	0.140	0.525
Clean - Dirty	0.654	0.122	0.428

the variance, and Factor 2 for 13.6 per cent; 56.7 per cent of the total variance is explained by these two factors. This same semantic differential, 'ideal girl' for the mothers' sample group, shows only one extracted factor (Table VIII). All items load positively and quite reasonably on the factor which accounts for 41.2 per cent of the total variance. For both sample groups of mothers and daughters, the seven polar adjective pairs (excluding feminine - masculine) which for the semantic differential used in this survey (and used by Hall as the evaluative dimension for the semantic differential 'feminine woman') do appear to be quite factorially pure. The adjectives feminine and masculine were added to the scale for this study, and in the case of the mothers, but not the girls, did load well on the single factor extracted. Therefore, at this point, no conclusive statement can be made as to whether it is indeed justifiable to add masculine - feminine to the evaluative dimension for the semantic differential 'ideal girl'.

It is possible to speculate why the feminine - masculine pair did load on the evaluative dimension of the concept 'ideal girl' for the mothers but not for the daughters. The mothers may be considerably more tradition bound than their daughters. Forty years ago, competitive sport for girls was not socially approved and received little attention in the education system. There was a social and cultural definition of sport as a masculine pursuit (the mothers did view an 'ideal girl' as more feminine than did their daughters; see Figure 1). Hence the mothers would tend to treat the masculine - feminine item as a dichotomy similar to the other bi-polar adjectives on the scale. Today, however, there is a much less definitive distinction between what is exclusively feminine or masculine, particularly in sport. It is possible that masculine - feminine then is a much less meaningful adjective pair for girls today in describing an 'ideal girl'; this could account for the separate factoring of this item for the girls but not for their mothers.

Considering the concept 'athletic girl', analysis of the data from both the mothers' and daughters' responses confirms the existence of two factors in each case. Table X shows the varimax rotated factor matrix for both the girls and the mothers. In both instances, the same five items, including feminine - masculine, load positively on Factor 1. The remaining three of the eight items load on Factor 2. For the girls' group, Factor 1 accounts for 37.5 per cent of the variance and Factor 2 for 15.8 per cent for a sum of 53.3 per cent of the total variance explained by the two factors. Similarly, for the mothers' group, Factor 1 accounts for 43.2 per cent and Factor 2 for 13.2 per cent for a total of 56.5 per cent of the total variance accounted for by the two factors. Although, theoretically, only one factor should have been extracted in both sample groups as an evaluative dimension indicating attitude (in this survey, ideas about 'ideal' and 'athletic' girls), this was clearly not the case. For the semantic differential 'athletic girl', the items (albeit the same items for each sample group) were split between two factors.

Good - bad, valuable - worthless, and tasteful - distasteful were the three items which factored out separately. It is possible that good and bad are such over-worked adjectives in common use in the English language that they have lost their clarity of meaning. The work 'good' particularly is used in many neutral, virtually non-descriptive phrases. In responding to the semantic differential, the subjects may have felt ambivalent about these two adjectives. Considering valuable -

Table IX

Varimax Rotated Factor Matrix for the
Semantic Differential 'Athletic Girl'
Subsample: Girls (N = 219)
Mothers (N = 219)

Item	Girls		Mothers	
	Factor 1	Factor 2	Factor 1	Factor 2
Good - Bad	0.125	0.612	0.162	0.674
Kind - Cruel	0.495	0.330	0.637	0.236
Valuable - Worthless	0.112	0.694	0.204	0.672
Tasteful - Distasteful	0.377	0.407	0.517	0.597
Feminine - Masculine	0.392	0.111	0.388	0.313
Sweet - Sour	0.782	0.014	0.513	0.357
Happy - Sad	0.583	0.140	0.726	0.078
Clean - Dirty	0.608	0.284	0.408	0.217

worthless and tasteful - distasteful, there may have been confusion about the connotative and denotative meanings of the words, as well as lack of specificity about the situation. The respondents may also have felt that the concepts were too value laden especially when evaluating a person as valuable or worthless.

Hall's (1974) Semantic Differential included items on all three dimensions (evaluative, potency and activity) and although three factors were extracted in her analysis, Hall reported that the scales were not factorially pure. In this study, for the semantic differential 'ideal girl', the seven items which were identical to the evaluative dimension of Hall's scale did load on one factor and thus appears to be factorially pure. However, it cannot be confirmed for the concept 'athletic girl' that the same seven adjective pairs form a single evaluative domain because the item loadings were divided between two factors.

b. Reliability

An estimate of the internal consistency reliability was determined by computing Cronbach's *alpha* through the SPSS subprogramme for reliability. The reliability coefficient for the differential 'ideal girl' was a very reasonable .80 for the girls' sample and .79 for the mothers'. For the semantic differential 'athletic girl', the coefficients were again quite respectable, .75 for the daughters' group and .81 for the mothers'. Hall (1974) who used the concept 'feminine woman' instead of 'ideal girl' obtained a reliability of .82 with a subject sample analogous to the mothers in this study. For an 'athletic woman', Hall found the reliability to be .85. However, one must bear in mind that the semantic differential used by Hall contained all three dimensions of meaning: evaluative, potency and activity, whereas, the scale used in this study was composed only of the evaluative dimension. Nevertheless, the reliability coefficients in the two studies are mutually supportive for the semantic differential.

3. Maternal Childrearing Practices Scale

a. Validity

An estimation of the construct validity of the Maternal Childrearing Practices Scale was determined through the factor analysis facility of the SPSS programme. The Orthogonal varimax rotated factor matrix (with a mineigen value of one) for this scale is shown in Table X.

It was anticipated that three subscales would be evident, each representing an emphasis on achievement training, independence, or restrictions. However, this did not occur. Four factors were extracted accounting for 52.7 per cent of the total variance. Factor 1 (which accounts for only 20.7 per cent of the total variance) has five items with high loadings, and these are five of the eight items which represent the achievement subscale. (Three of the five items refer to achievement against a standard, and the other two concern doing well against oneself.) Factor 1 can clearly be identified as the achievement subscale. However, Factors 2, 3 and 4 which explain 13.5 per cent, 10.0 per cent, and 8.4 per cent respectively of the total variance are multidimensional. Each of these three factors contain one item (which loads negatively on the factor in each case) from the Restrictions subscale. Factors 3 and 4 each contain two of the four items which compose the Independence subscale. The remaining items from the Achievement subscale (not in Factor 1) are contained in Factors 2 and 3.

Table X

Varimax Rotated Factor Matrix for the
Maternal Childrearing
Practices Scale

(N = 219)

Item	Factor 1	Factor 2	Factor 3	Factor 4
1	0.053	-0.298	0.537	-0.120
2	0.411	0.388	-0.104	0.065
3	0.134	-0.476	0.057	0.001
4	0.052	0.063	-0.073	0.714
5	0.023	0.682	-0.098	0.113
6	-0.156	-0.032	0.313	-0.220
7	0.088	0.578	-0.241	-0.044
8	0.326	-0.091	-0.079	0.364
9	0.634	-0.097	-0.206	0.183
10	-0.146	-0.076	-0.058	-0.598
11	0.568	-0.087	-0.199	0.196
12	0.379	0.004	-0.540	0.037
13	0.356	0.310	0.088	0.011
14	0.426	0.041	-0.045	0.044
15	-0.121	-0.175	0.651	0.170

Although one of the factors clearly represents the Achievement subscale, the construct validity of the whole scale must remain in doubt. One must question if it is justifiable to compute a total generalized score to indicate maternal childrearing practices when in fact, factor analysis confirms the existence of only one of the three component subscales - achievement training.

b. Reliability

Cronbach's *alpha* was computed through the SPSS subprogramme for reliability as an estimate of internal consistency reliability. The reliability coefficient for the scale is .15 which is very low indeed. It is evident that the total scale in its present form is not a reliable measure of maternal childrearing practices. However, when only the achievement aspect of the scale is considered (excluding independence and restrictions measures), a modest reliability coefficient of .50 can be calculated.

Evaluation of the Propositions and Second Order Relationships

1. Evaluation of the Propositions

a. The higher the need for achievement of the daughter, the greater her participation in competitive sports requiring physical skill.

The calculated Pearson correlation coefficient (a parametric statistic) for this relationship is .13 (p = .031) which is very slight[1] (Kendall's Tau b = .11; Kendall's Tau c = .10)[2]. It cannot be concluded then that this relationship has any meaningful degree of significance for the general population. However, the relationship between the dependent variable, competitive sport participation, and the two aspects of achievement motivation; that is, the need to succeed (QACHNS) and the tendency to avoid failure (QACHAF) is slightly better than for the generalized need for achievement (QACH). Pearson r for QACHNS is .17 (p = .006) and for QACHAF, .18 (p = .003). Both these coefficients still indicate only a slight trend, but individually they are better than the r score for the whole concept n Ach.

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[1] 0 r .19 is a slight correlation
.20 r .39 is a low correlation
.40 r .69 is a modest correlation
.70 r .89 is a high correlation
.90 r 1.00 is a very high correlation (Weber and Lamb, 1970:63)

[2] Both parametric and nonparametric values have been recorded for the reader. The sample size in this study is large enough to justify the use of parametric statistics even though the assumptions about population distribution are more suitable for the use of nonparametric statistics.

b. The higher the need for achievement of the mother, the greater her daughter's participation in competitive sports requiring physical skill.

There was no significant relationship (r = .02, p = .373) between the mother's need to achieve and the dependent variable, the girls' level of competitive sport participation. This is true for the total concept of need for achievement, as well as for the componenet parts, QACHNS and QACHAF. It might be interesting to note that although the correlations were negligible, there was a negative relationship between the mother's need to succeed (QACHNS) and her daughter's participation in competitive sports requiring physical skill.

c. The higher the socioeconomic status of the family, the greater the daughter's participation in competitive sports requiring physical skill.

The Pearson r for this relationship was calculated at .20 (p = .002) which is low (Kendall's Tau b = .13; Kendall's Tau c = .14). Nevertheless, it does indicate a slight trend suggesting that a girl's level of competitive sport involvement may increase (either in quantity or intensity) as the combined income of her family increases.

d. The greater the number of brothers she has, the greater the daughter's participation in competitive sports requiring physical skill.

This relationship did not prove to have a significant correlation coefficient (r = .03, p = .320) in this study. Further, crosstabulations indicate a very equitable distribution of girls who were only children to those who had several brothers in every level of competitive sport participation ranging from none to very high. No relationship, much less a linear one, could be observed from the data.

e. The later the daughter is in the order of birth in her family, the greater her participation in competitive sports requiring physical skill.

The Pearson correlation (r = .0004, p = .498) for this relationship was the smallest of all those calculated and was positive rather than negative. It would seem justifiable to conclude that the order of birth of the daughter has no significant influence on her level of involvement in competitive sport.

The comments in the literature concerning the birth order and the number of brothers for top female athletes tend to be generalizations, the results of a poll of a few top athletes, and of dubious statistical reliability and validity. Even for this sample, which was small and slightly biased (the girls were enrolled in physical education classes in school which indicates at least some involvement in physical movement, sport or recreation), there was no significant relationship between competitive sport participation and either a girl's order of birth or the number of brothers she has.

f. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the greater the daughter's participation in competitive sports requiring physical skill.

The Pearson correlation coefficient for this relationship was calculated to be -.17 (p = .007) which is slight (Kendall's Tau b and c = -.17). Nevertheless, a trend is suggested which indicates that the more congruent a girl's ideas are about what an 'athletic' or an 'ideal' girl should be, the greater the likelihood that she will participate in competitive sport.

g. The more the childrearing practices of the mother reflect her orientation toward achievement training, the greater her daughter's participation in competitive sports requiring physical skill.

A non-significant r (r = .09, p = .078) was computed for this relationship suggesting that for this survey sample, the childrearing practices of a mother as measured by the scale do not in fact, affect the level of her daughter's involvement in competitive sport. However, when only the achievement training dimension of the total maternal childrearing practices scale (excluding the independence and restrictions scales) is considered, there is a slight correlation of .13 (p = .027) between the competitive sport involvement of the daughter and her mother's childrearing for the motivation to achieve. Within the achievement training scale, it would appear that for this survey sample, over 85 per cent of the mothers seemed to approve of achievement against a standard or against oneself, but over 50 per cent of the mothers were on the lower portion of the scale measuring competition with others. It is possible that although the mothers raised their daughters with a high need to succeed, they may not necessarily encourage competitive sport which is winning or succeeding at the expense of an opponent.

2. Evaluation of the Second Order Relationships

a. The higher the socioeconomic status of her family, the greater the need for achievement of the daughter.

Family socioeconomic status as reflected by income is not significantly related (r = .05, p = .253) to the level of the need for achievement of the daughter.

b. The greater the number of brothers she has, the higher the need for achievement of the daughter.

The Pearson correlation coefficient (r = -.04, p = .265) for this relationship was not significant. However, it is important to note that although non-significant, the relationship was negative, suggesting the opposite to what was proposed; that is, the fewer the number of brothers, the higher the daughter's need to achieve.

c. The later she is in the order of birth in her family, the higher the need for achievement of the daughter.

There is a very slight but negative relationship between these variables (r = -.10, p = .064) as proposed. This is consistent with some of the literature which suggests that individuals with a higher need to achieve were first-born or early born children. When each of the component parts of the QACH scale (whose reliability was so low), QACHNS (the need for success) and QACHAF (avoidance of failure), are considered separately for the daughter, there is still no significant correlation between achievement motivation as reflected by these measures and a girl's order of birth.

d. The higher the need for achievement of the mother, the higher the need for achievement of the daughter.

The Pearson correlation was calculated to be .14 (p = .018) which indicates a very slight positive trend confirming the proposition. It must be noted that the generalized need for achievement score was not in fact found to be a very reliable measure of n Ach. The component aspects of the QACH scale, QACHNS and QACHAF were slightly more reliable individually as measures of motivation to achieve. However, it is most interesting that neither of the daughter's scores on QACHNS or QACHAF were significantly related to her mother's scores on those same scales while the daughter's generalized n Ach score was slightly related to that of her mother.

e. The more the childrearing practices of the mother reflect her orientation toward achievement training, the higher the need for achievement of the daughter.

The calculated Pearson r for this relationship (between the daughter's total n Ach score and the mother's total childrearing practices score) is -.12 (p = .040). The correlation is slight and negative, suggesting that a slight trend does exist but in the direction opposite to that proposed. Similarly, an r of -.13 (p = .024) was computed for the daughter's total need to achieve and just the achievement training subscale of the maternal childrearing practices scale. However, when the childrearing practices scale is considered as a whole and the daughter's need to achieve is broken down, there is a slightly significant relationship (r = -.13, p = .026) for QACHNS (the daughter's need to succeed) but no relationship for QACHAF (the daughter's avoidance of failure). When both the naternal childrearing practices scale and the daughter's need to achieve socre are considered in their component parts, there is a slight correlation (r = -.12, p = .034) between the achievement training subscale and QACHNS, but no relationship (r = -.02, p = .392) for QACHAF.

The negative direction of all the correlations indicates that the less the mother's childrearing practices emphasize achievement training, the higher the achievement need of the daughter. A proposition such as this appears illogical. Perhaps there is in fact no relationship between how a mother raises her child, and the measured n Ach of that child. A second explanation of the reversed direction of the correlation might be that conditions, circumstances or factors not truly related to maternal childrearing practices influence a daughter's development of a need for achievement as related to successful participation in competitive sport. This may be particularly true if a girl's n Ach is formed between the ages of five and nine when a mother's influence in childrearing is critical, and not measured until age 16 as was done in this survey.

f. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the daughter.

g. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl', the higher the need for achievement of the mother.

Neither of these relationships (r = .03, p = .344 and r = .01, p = .424 respectively) are significant. It can be concluded that the n Ach score for either the girl or her mother does not correlate with her ideas of an 'athletic' or an 'ideal' girl. This may perhaps be attributed to the fact that the need to achieve is formulated before the age of 10, and ideas and attitudes are formed and confirmed more as an individual enters adolescence.

h. The greater the degree of congruence between an 'athletic girl' and an 'ideal girl' for the mother, the greater the congruence between an 'athletic girl' and an 'ideal girl' for the daughter.

The Pearson correlation coefficient calculated for these variables is .36 (p = .001) which indicates a low correlation. However, a trend exists which suggests that a mother's and her daughter's ideas concerning an 'athletic' and an 'ideal' girl are related. Figure 1 shows a profile of the mothers' and daughters' ideas about an 'ideal girl'. It can be observed that the mother were slightly more positive than their daughters, but their ideas are similar in shape. Figure 2 is a profile of mothers' and daughters' ideas about an 'athletic girl'. Again, the mothers are more positive than their daughters but their

Figure 1

A Profile of Item Means for Mothers and Daughters for the Semantic Differential: Ideal Girl

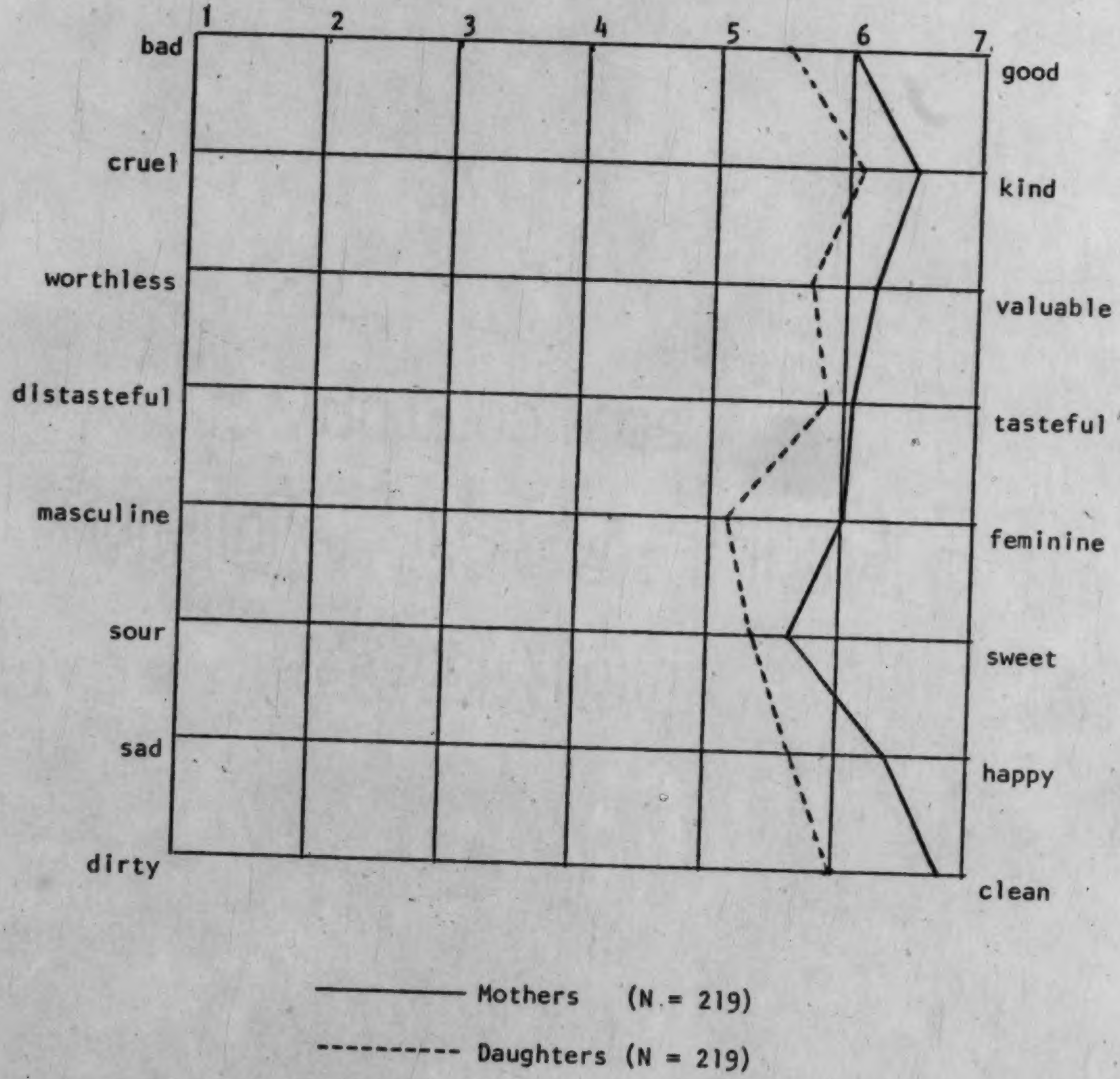
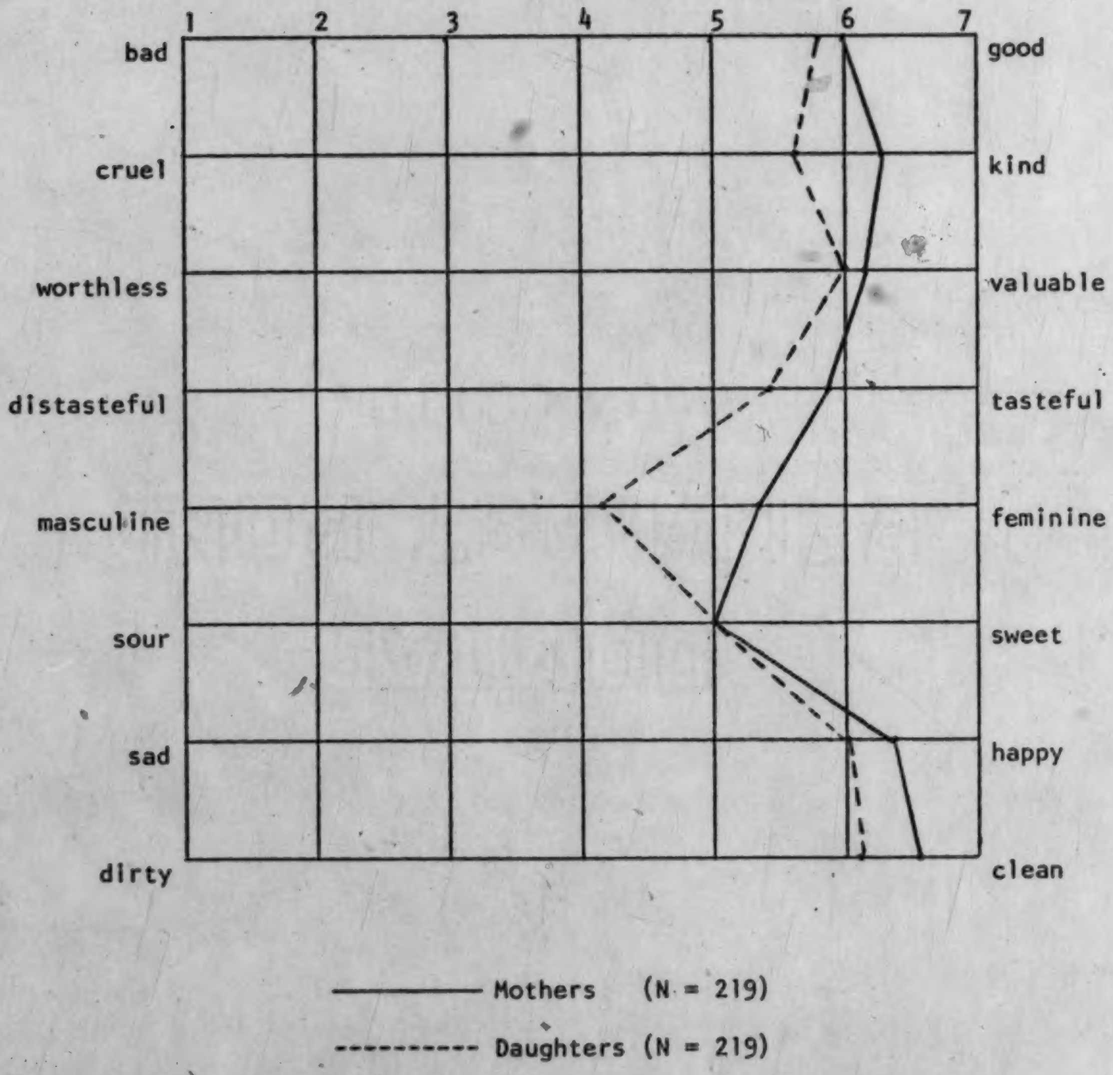


Figure 2

A Profile of Item Means for Mothers and Daughters for the Semantic Differential: Athletic Girl



ideas are quite parallel. The notable difference is in the 'masculine - feminine' adjective pair, where the girls felt an 'athletic girl' to be much more masculine than did their mothers.

Considered as individual sample groups, Figures 3 and 4 show a profile of an 'ideal girl' and an 'athletic girl' for the girls and their mothers respectively. The girls who did not participate in competitive sport at all are slightly less positive than their very high participating counterparts in the ideas of both an 'ideal' and an 'athletic' girl. However, the ideas of both non-participating and very high participating girls are parallel on both concepts. The same cannot be said for the subsample of mothers (Figure 4). For the concept 'ideal girl', the mothers of non-participating daughters were more positive than the mothers of girls who were highly involved in competitive sport. The mothers of high participants reported almost identical ideas about an 'athletic girl' and an 'ideal girl', whereas the mothers of non-participants more definitely show a more positive attitude toward 'ideal girl' than toward 'athletic girl'.

Figure 3

A Profile of Item Means for the Semantic Differential 'Ideal Girl' and 'Athletic Girl' for the Girls with No Participation in Competitive Sports and Those Girls with Very High Participation in Competitive Sports

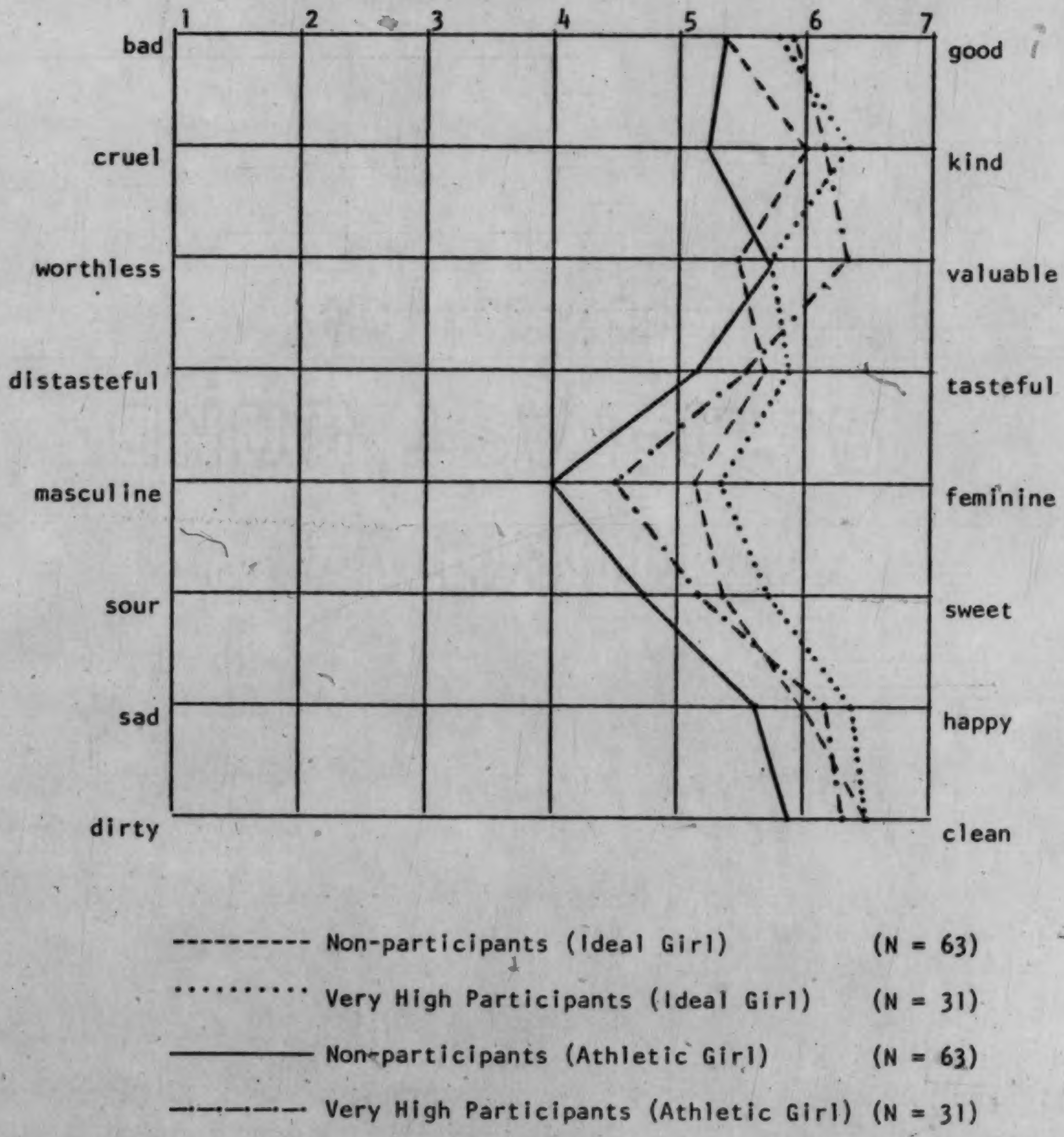
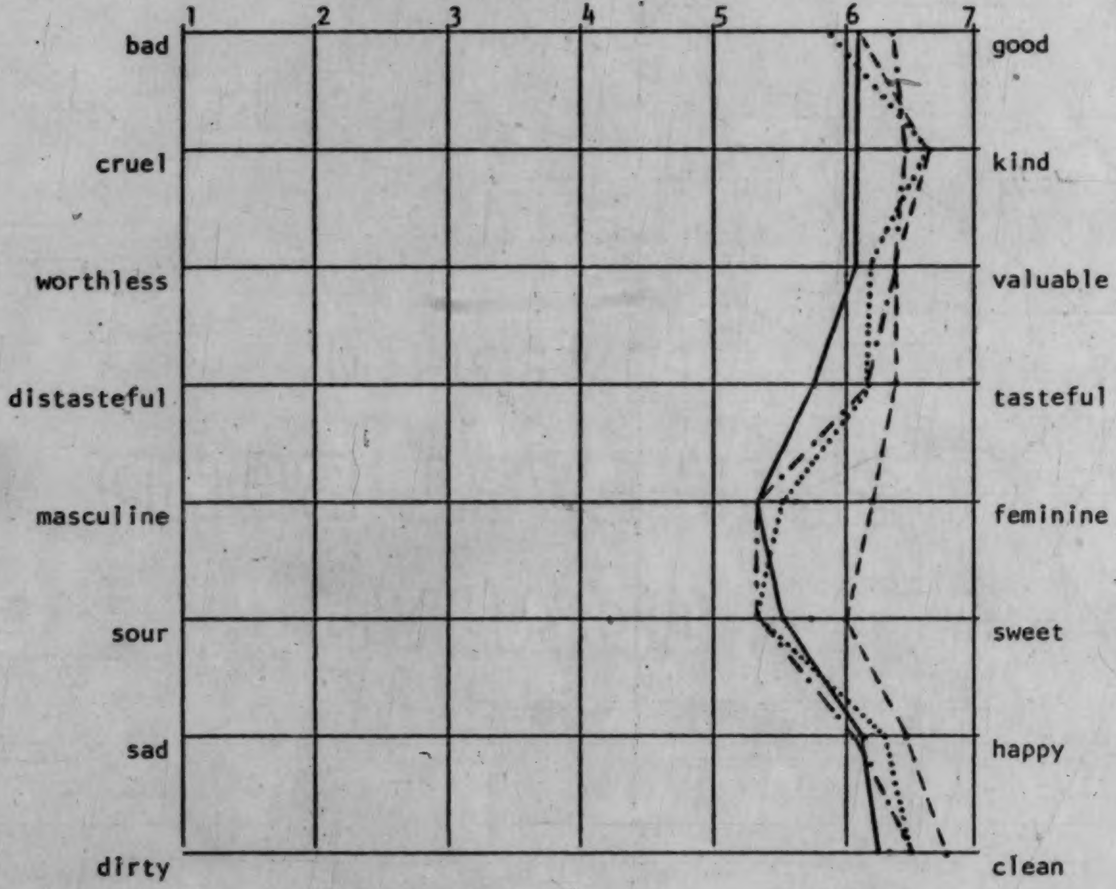


Figure 4

A Profile of Item Means for the Semantic Differential 'Ideal Girl' and 'Athletic Girl' for the Mothers of Girls with Either No Participation or Very High Participation in Competitive Sports



---------- Mothers of Non-participants (Ideal Girl) (N = 63)

·········· Mothers of Very High Participants (Ideal Girl) (N = 31)

———— Mothers of Non-participants (Athletic Girl) (N = 63)

—·—·—·— Mothers of Very High Participants (Athletic Girl) (N = 31)

CHAPTER V

DISCUSSION AND SUMMARY

The topic of women in sport encompasses a broad spectrum of potential research questions. The focus of this study was basically sociological. The specific areas selected for investigation were the relationships, stated in propositional form, between the adolescent girl's sibling-sex status, the attitude of a girl (and her mother) toward sport (as measured by the degree of congruence between the semantic differential concepts 'ideal girl' and 'athletic girl'), and the mother's childrearing practices.

The immediate problem which faces the investigator in social research is the development of statistically manageable measurements of intangibles such as need for achievement, attitude, and childrearing practices. Very few statistically valid and reliable paper and pencil tests or scales exist. The Robinson need for Achievement scale was used in this study even though its construct validity and internal consistency reliability is questionable. Because nothing more suitable appeared to exist in the reviewed literature as an objective measure of n Ach, this scale was used. Achievement motivation theory is quite well developed and TAT (Thematic Apperception Test) fantasy measure of n Ach is equally well researched. However, this subjective measurement of achievement motivation is unwieldy and impractical when employed with large numbers of subjects. It is recommended that an excellent area of research might be the development of a more statistically valid and reliable questionnaire format measure of n Ach.

Similarly, there are a great many measurements of maternal childrearing practices. The major difficulty is that each researcher constructs a scale for a specific intent of his investigation as was done in this case. The construct validity of the scale thus developed was questionable and its internal consistency reliability virtually non-existent. It would appear that much more theoretical research should precede the development of a general childrearing practices scale which is applicable for the mothers of small children as well as adolescents. It is recommended that an assessment of maternal (and possibly paternal) childrearing practices specifically related to participation in competitive sport be developed for future research in the field.

The estimation of attitude has been quite thoroughly investigated both theoretically and statistically, particularly by Osgood, Suci and Tannenbaum (1971). The semantic differential is quite a reliable measure of attitude, although its construct validity is sometimes confused.

A major problem with all objective measures is clarity of content. The vocabulary of the English language is extensive and allows for a wide variety of connotative meanings for some words and phrases. To create questions which will be easily and readily understood as well as universally interpreted by all respondents requires considerable skill. In this study, it was evident by some of the questions asked of the investigator by the girls that they neither clearly understood nor uniformly interpreted some of the questions. Obviously, it is in the individual response to a question where the value of the research lies; however, a certain level of common understanding is also necessary for the purposes of comparison. As one mother commented, "I found the questions on page two (the need for achievement scale) difficult to answer as they are generally not applicable to a homemaker-mother person. In this situation, how do you judge a success - failure ratio?

We only try harder."

The subjects in this survey were 219 girls and their mothers. The girls were all enrolled in the spring semester of physical education in three Edmonton high schools. Three hundred and twelve questionnaires were distributed to the girls in their classes and then collected by the investigator. Seventy per cent of the mothers cooperated by completing and returning their questionnaires to the school. Two hundred and nineteen valid pairs of mother - daughter questionnaires were entered in the data analysis. The descriptive information revealed quite normal or expected frequencies in the population sample. The only results which begged explanation concerned socioeconomic status, the average annual family income. Over 50 per cent of the mothers were employed, which is perhaps indicative of a growing trend in Canadian society away from the 'housewife' syndrome. Secondly, over one-half of the families reported incomes over $13,000.00 per annum; over one-tenth of the families reported combined earnings of over $24,000.00 per year. This suggests an unusually high distribution of respondents in upper income brackets, far exceeding the national norm. It may be partially due to the fact that Edmonton is a large urban area in an economically rich province.

In spite of the fact that the sample population was for all intents and purposes normal, very few significant conclusions can be drawn from the analysis of the data. The reasons why a girl chooses to actively participate in competitive sport are numerous, most of which are undoubtedly less easily identifiable subconscious and societal influences. Of the seven major relationships concerning the adolescent girl's competitive sport participation investigated in this study (causality was not intended), only three were even slightly significantly correlated. Because so few relationships were sufficiently significant, It was felt that it would not be meaningful to enter the variables into a multiple regression equation to determine which variable or combination of variables accounted for the majority of the variance in the girls' levels of participation in competitive sport.

The first relationship of slight significance related high need for achievement with greater participation in competitive sports requiring physical skill. The achievement motivation for the daughter (as measured by a total n Ach score, which reflected both need to succeed and tendency to avoid failure) was slightly associated with her involvement in competitive sport, but the n Ach of her mother was not. This latter result is perhaps not surprising, because most women who attended high school over 20 years ago or at least who are old enough to have adolescent daughters, were raised in a tradition which generally emphasized competitiveness and aggressiveness through sport for men, but passivity and more domestic pursuits for women. Therefore, the mother's need for achievement is likely to have little to do with competition in sport either for herself or for her daughter. It is also possible that entirely different results would have been produced if a more reliable and valid measure of achievement motivation had been employed.

Of the family-related variables investigated, number of male siblings, order of birth in the family, maternal childrearing practices, and socioeconomic status (income), only the latter slightly correlated with the daughter's competitive sport participation. Several logical explanations come immediately to mind. All sports require equipment and special facilities in varying degrees of quantity and expense. Obviously, the girls who were able to afford equipment and memberships in clubs could potentially participate. Also, the opportunity to become involved in several sports would be more readily available as well as the option to acquire a high level of skill through sometimes costly travel to competitions. Although it may not be entirely justifiable to associate income status with level of education, it is probable that the more educated command greater incomes. It is also possible that such parents would be less tradition bound in their thinking and would participate in sport themselves, encouraging their daughters to do the same. One mother, who commanded a yearly income in the area of $9,000.00 to $13,000.00, reported total non-participation in physical sports and recreation because "my husband does not believe in it." Her daughter correspondingly indicated no involvement in sport either.

Attitude plays an important role in determining the activities in which the individual becomes involved. It was proposed that if a girl viewed an 'ideal girl' to be the same as an 'athletic girl', the greater the likelihood that she would compete in sport; conversely, the more widely her ideas differed, the less the possibility that she would participate in sports. This proposition was, in fact, substantiated although there was only a slight correlation. It is during adolescence that the girl becomes acutely aware of self and it is during this period that self-worth and dignity, self-identity, self-image and the like are critical in the development of her social self. If the girl views competitive sport even subconsciously as a means of attaining such ends, then she will participate in sport with varying degrees of intensity and at various levels.

Three of the second order relationships were also concerned with attitude. It was not substantiated that attitude (as measured by congruence between ideas about an 'ideal girl' and an 'athletic girl') significantly correlated with the need for achievement for either the mothers or their daughters. However, there was a correlation, albeit low, between the mother's attitudes and those of her daughter concerning 'ideal' and 'athletic' girls. The mothers were generally a little more positive in their semantic descriptions of an 'ideal girl' and an 'athletic girl' but the daughter' descriptions followed the same pattern as their mothers'. It is logical to conclude that the attitude constellation of parents will be reflected, at least partially, in their children. The saying, "like mother, like daughter" was, in fact, substantiated statistically in this survey, as far as attitudes about girls competing in sport are concerned.

None of the second order relationships associating the girls' achievement motivation with the family-oriented variables, socioeconomic status (income), sibling-sex status (number of brothers and birth order), and the mother's childrearing practices were supported statistically. In the sample population for this survey, it also would appear that the mother's need for achievement is not related to the n Ach of her daughter. One must obviously look elsewhere to discern how achievement motivation is developed in adolescent girls as it pertains to their participation in competitive sport.

The scope of this survey was fairly limited, in that it dealt only with mothers and daughters. Four of the seven variables related in propositional form to the girl's competitive sport participation were concerned with her family - socioeconomic status (income), the number of male siblings, her order of birth in the family, and her mother's childrearing practices. Two variables were related to need for achievement, both her own, and her mother's, and the remaining variable dealt with attitude and its relationship to sport involvement. None of the correlations were of a very significant magnitude.

There are many other areas of potential research which merit investigation. Consideration needs to be given to the development of sound research design, and of valid and reliable research instruments. There are a great many social influences, the school, the community, the family, peer associations, shaping the development of the adolescent girl as she matures. Competitive sport participation among girls and women today is becoming a more socially prominent issue. There remain many potential research questions in the perspectives of the social sciences which need systematic exploration and analysis.

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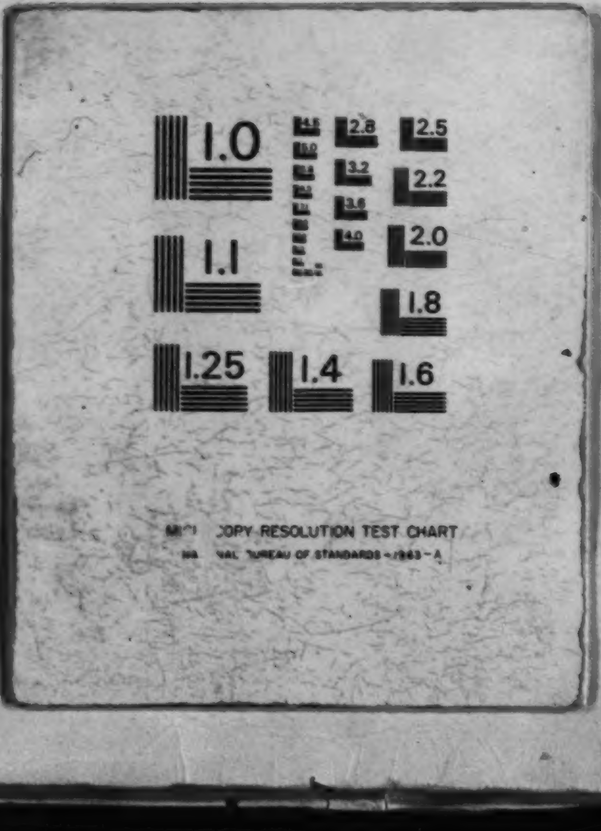
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APPENDICES

Appendix A

The Need for Achievement Scale

Subscales: Total Need for Achievement: QACH

Need to Succeed: QACHNS

Motive to Avoid Failure: QACHAF

1. In how many activities do you wish to do your very best?

   as many as possible / many / some / few / very few

2. Would you hesitate to undertake something that might lead to your failing?

   nearly always / frequently / about half the time / seldom / hardly ever

3. In how many areas are you personally concerned about how well you do?

   most / many / some / few / very few

4. Success brings relief or further determination and not just pleasant feelings. Do you agree?

   strong agreement / agreement / neutral / disagreement / strong disagreement

5. How much effort do you use to reach the goals you set yourself?

   almost 0% / 25% / 50% / 75% / 100%

6. How often do you lack confidence when you have to compete against others?

   hardly ever / seldom / about half the time / frequently / nearly always

7. How hard to you feel you have to try in seemingly trivial tasks?

   not at all / not very / medium / fairly / very

8. How strong is your desire to avoid competitive situations?

   very / fairly / medium / not very / none

9. How true is it to say that your efforts are directed towards avoiding failure?

   quite untrue / not very true / unsure / fairly true / quite true

10. In how many spheres do you think you will succeed in doing as well as you can?

    most / many / some / few / very few

11. How far do you agree that effort rather than success is what is important?

    strong agreement / agreement / neutral / disagreement / strong disagreement

12. How often do you seek opportunities to excel?

    hardly ever / seldom / about half the time / frequently / most of the time

13. How many situations do you avoid in which you may be exposed to evaluation?

    very few / few / some / many / most

14. Do you ever do better if you are worried about failing?

    hardly ever / seldom / about half the time / frequently / most of the time

15. The stronger the chance of failing the more determined you are to succeed. Do you agree?

    strong disagreement / disagreement / neutral / agreement / strong agreement

Scoring:

QACH was obtained by summing all items.

QACHNS was obtained by summing the scores on Items 1, 5, 7, 10, and 12.

QACHAF was obtained by summing the scores on Items 2, 6, 8, 9, and 13.

The scales on Items 1, 2, 3, 4, 8, 10, and 11 are reversed.

Appendix B

Childrearing Practices Scale

Subscales: Independence
Restrictions
Achievement

1. to ask for help before trying new things
2. to improve her performance at various skills she has learned
3. to be the centre of attention, if possible
4. to stand up for her rights with her friends
5. to be a winner in competitive sport
6. to ask for help if things are difficult
7. to be one of the best five students in her class
8. to make her own friends
9. to do her best at projects she undertakes
10. to express her emotions and feelings freely
11. to stick to a task she is capable of doing until she finishes it
12. to be obedient to her parents
13. to be reasonably skillfull in athletic activities
14. to take pride in doing things well
15. to ask her parents before making decisions

Childrearing Practices Index was obtained by summing all items.

Independence subscale was obtained by summing the scores on Items 1, 4, 8, and 15.

Restrictions subscale was obtained by summing the scores on Items 3, 10, and 12.

Achievement subscale was obtained by summing the scores on Items 2, 5, 6, 7, 9, 11, 3, and 14.

Competition with self: Items 2, 6, and 9

Competition with a standard: Items 11, 13, and 14

Competition against others: Items 5 and 7

Appendix C

THE UNIVERSITY OF ALBERTA

THE FACULTY OF PHYSICAL EDUCATION AND RECREATION

SURVEY OF THE PARTICIPATION OF HIGH SCHOOL GIRLS IN COMPETITIVE SPORT

A Note About the Questionnaire:

We hope that you will find the questionnaire interesting. Please answer all the questions which apply to you even though you feel they may be unnecessary or irrelevant. We have made the questionnaire as short as possible and each question has been included for a specific reason. If you have any comments about the questionnaire or any points you wish to make, please feel free to write in the space provided at the end for this purpose.

Please remember that your answers will remain entirely confidential and will not at any time be associated with your identity.

Thank you very much for your help.

___ ___ ___ ___

PART ONE

Please write your answers in the spaces provided.

1. How old are you now? ________
2. Do both your parents live at home with you? (yes or no) ________
3. How many older brothers do you have? ________
   What are their ages? ____ ____ ____ ____ ____
4. How many older sisters do you have? ________
   What are their ages? ____ ____ ____ ____ ____
5. How many younger brothers do you have? ________
   What are their ages? ____ ____ ____ ____ ____
6. How many younger sisters do you have? ________
   What are their ages? ____ ____ ____ ____ ____

PART TWO

7. Have you ever been a member of a competitive sport club, association, or team? (yes or no) ________
   (Do not include such activities as recreational swimming or skating.)

> *If your answer is NO, go on to PART THREE, Question 13.*
>
> *If your answer is YES, please answer all questions.*

8. For all sports that you competed in during the last year (April 1975 to April 1976), please list the sports, the names of the clubs, and the number of years you have been competing in that sport.

Sport	Name of the Club	Number of Years Competing

9. If there are sports that you have competed in *in the past* (but are no longer competing in), please list the sports, the names of the clubs, and the number of years that you did compete in that sport.

Sport	Name of Club	Number of Years Competing

10. For one sport that you have actively competed in during the past year, (April 1975 to April 1976), how many total hours per week did you practice?

____

11. For one sport that you have actively competed in during the past year, (April 1975 to April 1976), how many total hours per week did you spend in actual competition?

____

12. Have you ever been a member of a team representing:

Edmonton (yes or no): __________
Alberta (yes or no): __________
Canada (yes or no): __________

PART THREE

For each of the following statements, underline the one alternative listed below each statement which corresponds to what you really think or do.

For example:

How often do you feel that you have really accomplished something?

nearly always / frequently / about half the time / seldom / hardly ever

Here are the statements:

13. In how many activities do you wish to do your very best?

as many as possible / many / some / few / very few

14. Would you hesitate to undertake something that might lead to your failing?

nearly always / frequently / about half the time / seldom / hardly ever

15. In how many areas are you personally concerned about how well you do?

    most / many / some / few / very few

16. Success brings relief or further determination and not just pleasant feelings. Do you agree?

    strong agreement / agreement / neutral / disagreement / strong disagreement

17. How much effort do you use to reach the goals you have set yourself?

    almost 0% / 25% / 50% / 75% / 100%

18. How often do you lack confidence when you have to compete against others?

    hardly ever / seldom / about half the time / frequently / nearly always

19. How hard to you feel you have to try in seemingly trivial tasks?

    not at all / not very / medium / fairly / very

20. How strong is your desire to avoid competitive situations?

    very / fairly / medium / not very / very

21. How true is it to say that your efforts are directed towards avoiding failure?

    quite untrue / not very true / unsure / fairly true / quite true

22. In how many spheres do you think you will succeed in doing as well as you can?

    most / many / some / few / very few

23. How far do you agree that effort rather than success is what is important?

    strong agreement / agreement / neutral / disagreement / strong disagreement

24. How often do you seek opportunities to excel?

    hardly ever / seldom / about half the time / frequently / most of the time

25. How many situations do you avoid in which you may be exposed to evaluation?

    very few / few / some / many / most

26. Do you ever do better if you are worried about failing?

    hardly ever / seldom / about half the time / frequently / most of the time

27. The stronger the chance of failing the more determined you are to succeed. Do you agree?

    strong disagreement / disagreement / neutral / agreement / strong agreement

PART FOUR

We would like you to indicate your feelings that best describe the item in the box.

For example:

REFEREE

If you feel the referee was very unfair, mark like this:

fair ___ : ___ : ___ : ___ : ___ : ___ : X unfair
1 2 3 4 5 6 7

If you feel the referee was quite fair, but not as fair as he might have been, mark like this:

fair ___ : ___ : X : ___ : ___ : ___ : ___ unfair
1 2 3 4 5 6 7

If you have no opinion or feel neutral, please mark the middle:

fair ___ : ___ : ___ : X : ___ : ___ : ___ unfair
1 2 3 4 5 6 7

Please but your X on the line, and not between them.

The numbers under each scale are merely to assist us with our analysis; you need not pay any attention to them.

NOW PROCEED:

AN IDEAL GIRL

good ___ : ___ : ___ : ___ : ___ : ___ : ___ bad
1 2 3 4 5 6 7

cruel ___ : ___ : ___ : ___ : ___ : ___ : ___ kind
1 2 3 4 5 6 7

valuable ___ : ___ : ___ : ___ : ___ : ___ : ___ worthless
1 2 3 4 5 6 7

tasteful ___ : ___ : ___ : ___ : ___ : ___ : ___ distasteful
1 2 3 4 5 6 7

feminine ___ : ___ : ___ : ___ : ___ : ___ : ___ masculine
1 2 3 4 5 6 7

sour ___ : ___ : ___ : ___ : ___ : ___ : ___ sweet
1 2 3 4 5 6 7

sad ___ : ___ : ___ : ___ : ___ : ___ : ___ happy
1 2 3 4 5 6 7

clean ___ : ___ : ___ : ___ : ___ : ___ : ___ dirty
1 2 3 4 5 6 7

AN ATHLETIC GIRL

good ____ : ____ : ____ : ____ : ____ : ____ : ____ bad
1 2 3 4 5 6 7

cruel ____ : ____ : ____ : ____ : ____ : ____ : ____ kind
1 2 3 4 5 6 7

valuable ____ : ____ : ____ : ____ : ____ : ____ : ____ worthless
1 2 3 4 5 6 7

tasteful ____ : ____ : ____ : ____ : ____ : ____ : ____ distasteful
1 2 3 4 5 6 7

feminine ____ : ____ : ____ : ____ : ____ : ____ : ____ masculine
1 2 3 4 5 6 7

sour ____ : ____ : ____ : ____ : ____ : ____ : ____ sweet
1 2 3 4 5 6 7

sad ____ : ____ : ____ : ____ : ____ : ____ : ____ happy
1 2 3 4 5 6 7

clean ____ : ____ : ____ : ____ : ____ : ____ : ____ dirty
1 2 3 4 5 6 7

If you have any comments you wish to make, we would appreciate it. Please use this space.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE.

Appendix D

THE UNIVERSITY OF ALBERTA

THE FACULTY OF PHYSICAL EDUCATION AND RECREATION

SURVEY OF MOTHERS' ATTITUDES ABOUT THE PARTICIPATION OF HIGH SCHOOL GIRLS IN COMPETITIVE SPORT

A Note About the Questionnaire:

We hope that you will find the questionnaire interesting. Please answer all questions even though you may feel that they are unnecessary or irrelevant. We have made the questionnaire as short as possible and each question has been included for a specific reason. If you have any comments or points you wish to make about the questionnaire, we would be pleased if you would write in the space provided at the end for this purpose.

Your daughter filled in a similar questionnaire today, and we would appreciate it if you would complete this one and send it back to the school as soon as possible. It is necessary that both yours and your daughter's questionnaires be completed if they are to be included in the survey.

Please remember that your answers will remain entirely confidential and will not at any time be associated with your identity.

Thank you very much for your help.

____

PART ONE

Parents have many ideas about how important it is for their children to have different qualities. You are asked to write a number from 1 to 5 to indicate how important you feel it is for your daughter to possess the qualities listed below.

very important = 5   quite important = 4   moderately important = 3

not too important = 2   very unimportant = 1

_____ 1. to ask for help before trying new things

_____ 2. to improve her performance at various skills she has learned

_____ 3. to be the centre of attention if possible

_____ 4. to stand up for her rights with her friends

_____ 5. to be a winner in competitive sport

_____ 6. to ask for help if things are difficult

_____ 7. to be one of the best five students in her class

_____ 8. to make her own friends

_____ 9. to do her best at projects she undertakes

_____ 10. to express her emotions and feelings freely

_____ 11. to stick to a task she is capable of doing until she finishes it

_____ 12. to be obedient to her parents

_____ 13. to be reasonably skilled in athletic activities

_____ 14. to take pride in doing things well

_____ 15. to ask her parents before making decisions

PART TWO

For each of the following statements, underline the one alternative listed below each statement which corresponds to what you really think or do.

For example:

How often do you feel that you have really accomplished something?

nearly always / frequently / about half the time / seldom / hardly ever

Here are the statements:

16. In how many activities do you wish to do your very best?
as many as possible / many / some / few / very few

17. Would you hesitate to undertake something that might lead to your failing?
nearly always / frequently / about half the time / seldom / hardly ever

18. In how many areas are you personally concerned about how well you do?
most / many / some / few / very few

19. Success brings relief or further determination and not just pleasant feelings. Do you agree?
strong agreement / agreement / neutral / disagreement / strong disagreement

20. How much effort do you use to reach the goals you have set yourself?
almost 0% / 25% / 50% / 75% / 100%

21. How often do you lack confidence when you have to compete against others?
hardly ever / seldom / about half the time / frequently / nearly always

22. How hard do you feel you have to try in seemingly trivial tasks?
not at all / not very / medium / fairly / very

23. How strong is your desire to avoid competitive situations?
very / fairly / medium / not very / none

24. How true is it to say that your efforts are directed towards avoiding failure?
quite untrue / not very true / unsure / fairly true / quite true

25. In how many spheres do you think you will succeed in doing as well as you can?
most / many / some / few / very few

26. How far do you agree that effort rather than success is what is important?
strong agreement / agreement / neutral / disagreement / strong disagreement

27. How often do you seek opportunities to excel?
hardly ever / seldom / about half the time / frequently / most of the time

28. How many situations do you avoid in which you may be exposed to evaluation?
very few / few / some / many / most

29. Do you ever do better if you are worried about failing?
hardly ever / seldom / about half the time / frequently / most of the time

30. The stronger the chance of failing the more determined you are to succeed. Do you agree?
strong disagreement / disagreement / neutral / agreement / strong agreement

PART THREE

We would like you to indicate your feelings that best describe the item in the box.

For example:

REFEREE

If you feel the referee was very unfair, mark like this:

fair _____ : _____ : _____ : _____ : _____ : _____ : __X__ unfair
1 2 3 4 5 6 7

If you feel the referee was quite fair, but not as fair as he might have been, mark like this:

fair _____ : _____ : __X__ : _____ : _____ : _____ : _____ unfair
1 2 3 4 5 6 7

If you have no opinion or feel neutral, please mark the middle:

fair _____ : _____ : _____ : __X__ : _____ : _____ : _____ unfair
1 2 3 4 5 6 7

Please put your X on the line, and not between them.

The numbers under each scale are merely to assist us with your analysis; you need not pay any attention to them

NOW PROCEED:

AN IDEAL GIRL

good _____ : _____ : _____ : _____ : _____ : _____ : _____ bad
1 2 3 4 5 6 7

cruel _____ : _____ : _____ : _____ : _____ : _____ : _____ kind
1 2 3 4 5 6 7

valuable _____ : _____ : _____ : _____ : _____ : _____ : _____ worthless
1 2 3 4 5 6 7

tasteful _____ : _____ : _____ : _____ : _____ : _____ : _____ distasteful
1 2 3 4 5 6 7

feminine _____ : _____ : _____ : _____ : _____ : _____ : _____ masculine
1 2 3 4 5 6 7

sour _____ : _____ : _____ : _____ : _____ : _____ : _____ sweet
1 2 3 4 5 6 7

sad _____ : _____ : _____ : _____ : _____ : _____ : _____ happy
1 2 3 4 5 6 7

clean _____ : _____ : _____ : _____ : _____ : _____ : _____ dirty
1 2 3 4 5 6 7

AN ATHLETIC GIRL

good	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	bad
cruel	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	kind
valuable	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	worthless
tasteful	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	distasteful
feminine	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	masculine
sour	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	sweet
sad	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	happy
clean	____ 1	: ____ 2	: ____ 3	: ____ 4	: ____ 5	: ____ 6	: ____ 7	dirty

PART FOUR

In order to help us classify your answers statistically, may we ask you a few questions about yourself and your family? Please remember that this information will be kept strictly confidential and used only for our research.

Please write in the answer or put an X in the appropriate box.

1. Are you employed outside the home? (yes or no) ____________

   If so, what is your occupation? ______________________________

   Please describe as carefully as possible the type of work you do:

   ____

   ____

2. What is your husband's occupation? ____________________________

   Please describe as carefully as possible the type of work he does:

   ____

   ____

3. What is the approximate *combined* income for your family?

____ less than $5,000.00 per year

____ $5,000.00 to $9,000.00 per year

____ $9,000.00 to $13,000.00 per year

____ $13,000.00 to $18,000.00 per year

____ $18,000.00 to $24,000.00 per year

____ over $24,000.00 per year

4. When you were younger, did you every actively compete on any sport team or club? (yes or no) ________

What sports did you compete in? ____________________

____

____

____

5. How would you rate your present participation level in physical sports and recreation?

____ high

____ medium

____ low

____ none

If you have any comments you wish to make, we would appreciate it. Please use this space.

THANK YOU VERY MUCH FOR YOUR ASSISTANCE.

Appendix E

FACULTY OF PHYSICAL EDUCATION
THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA T6G 2H9

DEPARTMENT OF PHYSICAL EDUCATION

March, 1976

Dear Madam:

My students and I are involved in research which concerns female involvement in sport. Presently we are investigating why high school girls participate in competitive sport. We would like both you and your daughter to assist us with the study. In this regard, your daughter has already completed a questionnaire at school, and we have asked her to bring this one home to you.

The information we receive through your answers to our questions will be most valuable. It is important to help us in determining why girls compete in sports as well as what sports they enjoy most.

We hope that you will take a few minutes to read the instructions and to answer the questions. It will not take very long as there is no writing involved. You merely circle or underline your desired answer. It is not necessary to sign your name and consequently your reply will never be associated with your identity. Furthermore, all replies will be kept strictly confidential and used only to further our research.

When you have completed the questionnaire, please give it to your daughter to take back to school tomorrow. It is very important that we receive questionnaires from both you and your daughter; otherwise, we will be unable to complete our study.

We appreciate your time and your cooperation. If you require further information concerning the project, please do not hesitate to call us at 432-5603.

Yours sincerely,

M. Ann Hall, Ph.D.
Associate Professor

Lorna Braden
Graduate Student

MAH:ecw

Appendix F

Variable Codenames

Variable	Codename	Mother's Questionnaire	Daughter's Questionnaire
1. Family Variables			
Age	AGE		Part 1, Q1
Both Parents Living at Home	PARHOME		Part 1, Q2
Number of older brothers	OLDBRO		Part 1, Q3
Number of older sisters	OLDSIS		Part 1, Q4
Number of younger brothers	YOUNGBRO		Part 1, Q5
Number of younger sisters	YOUNGSIS		Part 1, Q6
Mother's Occupation	MOCCUP	Part 4, Q1	
Father's Occupation	FOCCUP	Part 4, Q2	
Combined family income	INCOME	Part 4, Q3	
2. Competitive Sport Participation			
Number of years of competition for all sports the girl is presently competing in	YRCOMNOW		Part 2, Q8
Number of years of competition for all sports the girl competed in during the past	YRCOMPAS		Part 2, Q9
Hours of practice per week in one sport	HRPRAC		Part 2, Q10
Hours of competition per week in one sport	HRCOM		Part 2, Q11
Competition at a regional level	LEVELED		Part 2, Q12
Competition at a provincial level	LEVELAB		Part 2, Q12
Competition at an international level	LEVELCA		Part 2, Q12

3. Need for Achievement

Need for achievement index	QACH	Part 2, Q16-30	Part 3, Q13-27

4. Congruence Between 'Athletic Girl' and 'Ideal Girl'

Ideal girl	IDGIRL	Part 3	Part 4
Athletic Girl	ATHGIRL	Part 3	Part 4

5. Childrearing Practices

Childrearing practices scale index	CHILDRE	Part 1, Q1-15
Mother's past participation in competitive sport	MCOMPAST	Part 4, Q4
Mother's present level of participation in competitive sport and recreation	MCOMNOW	Part 4, Q5